FINAL GENERIC ENVIRONMENTAL IMPACT STATEMENT
FOR

LOVE CANAL AREA MASTER PLAN

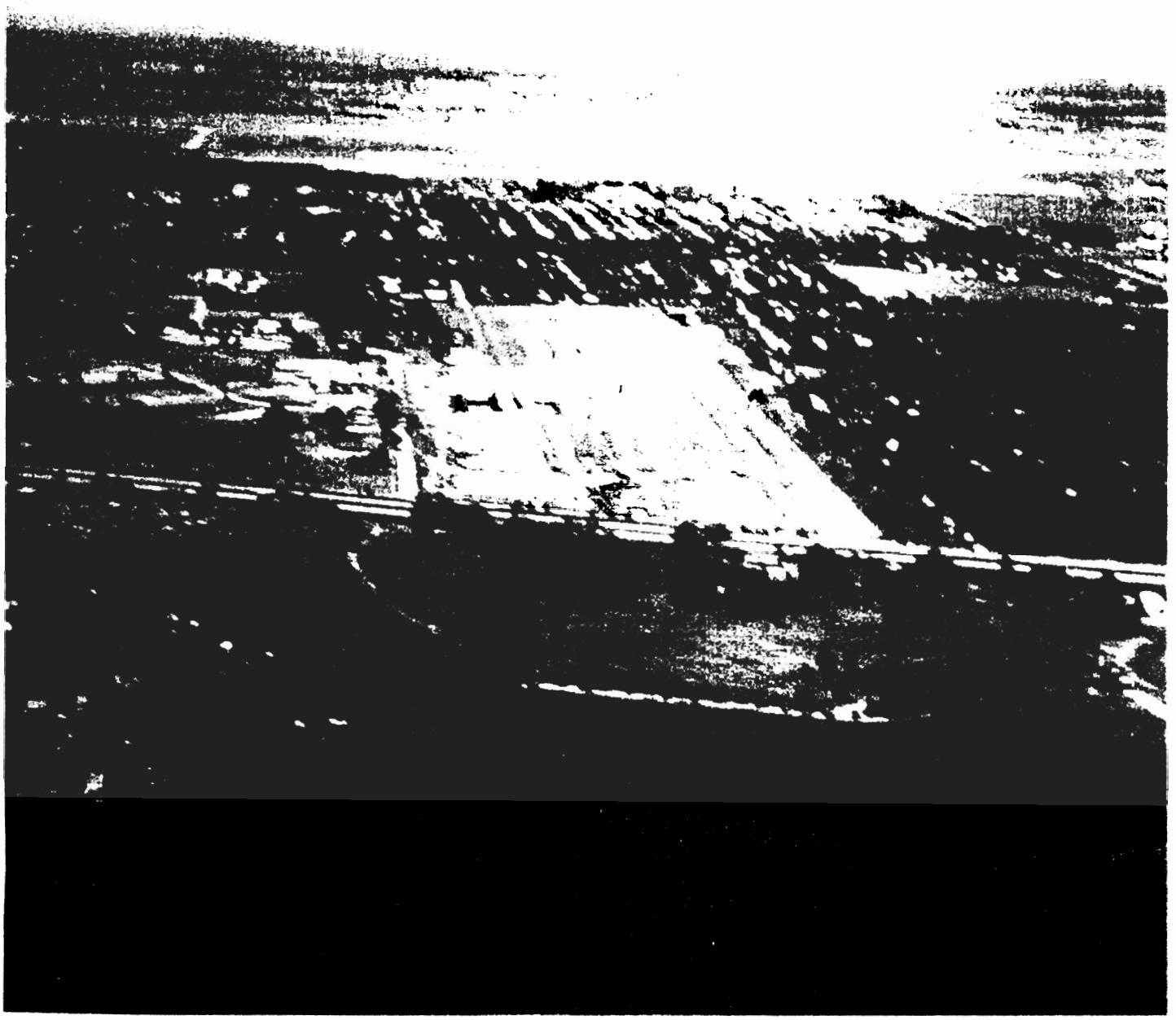
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FINAL GENERIC ENVIRONMENTAL IMPACT STATEMENT

for

THE LOVE CANAL AREA MASTER PLAN

City of Niagara Falls
The County of Niagara
The State of New York

May 30, 1990

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Figure 14 is based on the limits of the EDA as defined in LCARA's enabling legislation.

LIST OF ABBREVIATIONS

DGEIS	Draft Generic Environmental Impact Statement
EDA	Emergency Declaration Area
FEMA	Federal Emergency Management Agency
gpd	gallons per day
IDA	Industrial Development Agency
LCARA	Love Canal Area Revitalization Agency
LCIC	Love Canal Indicator Chemical
NFHA	Niagara Falls Housing Authority
NYCRR	New York State Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDHCR	New York State Division of Housing and Community Renewal
NYSDOH	New York State Department of Health
NYSOPRHP	New York State Office of Parks, Recreation and Historic Preservation
PUD	Planned Unit Development
SEQRA	State Environmental Quality Review Act
SCS	Soil Conservation Service
TSA	The Saratoga Associates
USEPA	United States Environmental Protection Agency
USDHUD	United States Department of Housing and Urban Development

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LONG RANGE PLANNING COMMITTEE MEMBERS

Carroll J. Colpoys, Chairman
James D. Heuer
Richard J. Hogan, Jr.
David Brooks

The Love Canal Area Revitalization Agency members also met numerous times, both in work sessions and in formal agency meetings to discuss numerous policy issues and to develop responses to concerns which were raised during the Draft Generic Environmental Impact Statement and Final Generic Environmental Impact Statement.

LOVE CANAL AREA REVITALIZATION AGENCY MEMBERS

City of Niagara Falls Mayor, Michael C. O'Laughlin, Chairman
Town of Wheatfield Supervisor, Terry W. Kuehn, Vice Chairman

James D. Heuer, Secretary
Frank Soda, Treasurer
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Special thanks are also due to the Love Canal Area Revitalization Agency's Executive Director, William D. Broderick, the Director of Planning, James E. Carr and agency staff who worked with the planning consultant with the Love Canal Area Revitalization Agency.

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New York State Department of Health
New York State Department of Environmental Conservation
New York State Disaster Preparedness Commission
New York State Department of Law

Last but not least, the Love Canal Area Revitalization Agency wish to thank the many citizens who gave their time and expertise in the course of the public review process.

1.0 EXECUTIVE SUMMARY

1.0 **EXECUTIVE SUMMARY**

After almost 11 years of ongoing remediation and testing, the New York State Commissioner of Health, Dr. David Axelrod, has issued a statement deeming portions of the Love Canal EDA as habitable.

This decision by Dr. Axelrod has prompted present Master Planning Activities. "For those areas declared habitable, revitalization/ resettlement programs must await development and approval of an overall land use plan" (Decision on Habitability 1988).

The Saratoga Associates (TSA) of Saratoga Springs, Buffalo, New York, NY *and Springfield, MA* was retained by the Love Canal Area Revitalization Agency (LCARA) to prepare a Master Plan reflecting the findings presented by the New York State Department of Health (NYSDOH) in its habitability decision and the area's environmental, social and physical settings. The findings presented in the Habitability Decision were accepted as a given for the purposes of the Master Plan, Draft and Final Generic Environmental Impact Statements (D & FGEIS). As a result of Master Planning activities, a Preferred Alternative was developed to guide future land use at the Love Canal Emergency Declaration Area (EDA). This final generic environmental impact statement assesses the physical, environmental and social impacts of implementation of the Preferred Alternative as compared to other alternatives.

1.1 Submission Objectives

This FGEIS is prepared pursuant to regulations promulgated under the State Environmental Quality Review Act (SEQRA) (6 NYCRR Part 617). It assesses the environmental impact *from* implementation of the Preferred Alternative.

A Generic EIS was selected as the appropriate type of impact statement because its broad scope aids in the analysis of the very distinct alternative development plans for the Love Canal EDA. According to SEQR, a generic EIS may be used "... to assess the environmental effects of ... an entire program or plan having wide application or restricting the range of future alternative policies or projects." (6 NYCRR Part 617.15).

Under SEQR, Generic EIS's are broader and more general than site or project specific EIS's, and should discuss the logic and rationale for the choices advanced. "They may identify the important elements of the natural resource base as well as the existing and projected man-made features, patterns and character... They may present and analyze a few hypothetical scenarios that could and are likely to occur" (6 NYCRR 617.15 (d).

This FGEIS sets forth the criteria and thresholds under which future actions will be undertaken or approved. The areas in which site-specific data are to be developed and incorporated into plans are established herein. The implementation of the Preferred Alternative must be undertaken within the criteria and thresholds established in this FGEIS.

In the course of developing the Final Generic Environmental Impact Statement, the Love Canal Area Revitalization Agency and The Saratoga Associates addressed over 300 comments which were made by persons who reviewed the Draft Generic Environmental Impact Statement. Each of these comments, and the responses thereto, is included under separate cover, as Appendix A. Other reference materials are bound under separate cover entitled Appendices B-Z.

To improve report readability, each of these changes were incorporated back into the Final Generic Environmental Impact Statement. Original Draft Generic Environmental Impact Statement material is included in the Final Generic Environmental Impact Statement as standard type while changes or new material is shown in italics.

1.2 Project Description

1.2.1 Site Context

The Love Canal EDA is a +/- 350 acre parcel of land which is predominantly vacant land and housing units. Approximately 60 active residential units are scattered throughout the EDA. The fenced containment area is approximately 65 acres and is located in the central portion of the EDA. Area of developable land is approximately +/- 290 acres. The entire area is the focus of this FGEIS and The Love Canal Area Master Plan.

The Love Canal EDA is bordered by the Black and Bergholtz Creeks to the north, 103rd Street continuing up to Colvin Boulevard to the east, 93rd Street to the west and Buffalo Avenue to the south.

Land Uses in the immediate vicinity of the Love Canal EDA include an extensive transportation network, residential areas, commercial areas and hazardous waste landfills. There are established residential neighborhoods to the west and north and a commercial strip to the east of the EDA along Williams Road in the Town of Wheatfield.

1.2.2 Development Plan

The Preferred Alternative for development of the Love Canal EDA envisions a mix of uses comprised of commercial, industrial

office park-light assembly and single and medium density residential. Complementing these uses will be areas dedicated to park land. No development activity is planned for the 65 acre fenced containment area. Development activity proposed for each sub-area is described below. *Furthermore, the criteria and thresholds for development in these areas is also identified in the FGEIS Chapter 2.0, Section 2.4, entitled, "Criteria and Thresholds to Development.* Each sub-area is also graphically represented on FGEIS Figure 13.

Sub-Area 1

Sub-area 1 *is planned as a greenbelt in which no* development will occur. This area will remain as is to serve as a gateway to the City of Niagara Falls. *Landscaping and other amenitities will be added to improve the area's general aesthetic appearance.*

Sub-Areas 2 and 3

Sub-areas 2 and 3 are proposed for a Planned Commercial Development which will include a range of high quality options such as commercial, industrial and office park use. The Planned Commercial Development Concept *will preserve and protect the Class II wetland as per all applicable state and federal regulations* as well as create a variety of open space areas throughout.

The Town of Wheatfield is encouraged to pursue similar activity types for their portion of the EDA. There are two components of Town control. The first is that which is located within the EDA and the second is the portion between the EDA boundary and Williams Road. The area north of Colvin Boulevard outside the EDA has been rezoned as commercial by the Town of Wheatfield.

LCARA has developed a land use plan which proposes light industrial/office park uses for Sub-Areas 2 and 3. Development of this type will require phasing since there are approximately 30 active residential units remaining in Sub-Areas 2 and 3 as well as approximately 16 remaining tenants. Analysis of existing patterns of settlement in this area show that the greatest number of remaining residents are located in the southern part of this area with smaller numbers in the north. Therefore, a phased development plan will be pursued which begins in the north near Colvin Boulevard and proceed in a southerly direction. The exception is the Frontier Fire Hall which is located on Frontier Avenue at the southern end on Frontier Avenue. The absorption of the facility is scheduled for Phase I.

LCARA has developed inducements to be offered to remaining residents which would encourage them to relocate to the habitable area of the EDA. Offering inducements may reduce the numbers of residents in Sub-Areas 2 and 3. Other factors including but not limited to the NYSDEC proposed remediation of Areas 2 and 3, job changes, age and health may further reduce the numbers of persons living in the area. These factors cannot be easily quantified. Any phasing plan must, therefore, be tentative and suggestive of a direction rather than be cast in stone. LCARA will continue to be sensitive to the needs and welfare of the remaining residents in areas 2 and 3 as well as elsewhere in the EDA.

Sub-Areas 4 and 5

Sub-areas 4 and 5 have been designated as single family residential areas. Existing houses in these areas will be rehabilitated *and sold to interested buyers upon lifting of the New York State Supreme Court Injunction which enjoins LCARA from selling these housing units. 194 housing units will be rehabilitated and sold.* LCARA will actively pursue funding to improve the condition of existing homes to present market standards.

Sub-Areas 6 and 7

Sub-areas 6 and 7 will be reserved for a Planned Unit Residential Development (PRD) which is compatible with the existing City of Niagara Falls Zoning Ordinance. *Development focus shall be placed upon the provision of middle income, medium density residential uses with single family use along the western side of 93rd Street. Adequate landscaping and space shall be provided to buffer development of this area from the Love Canal Containment Area. The +/- 60 single family housing units along 93rd Street shall be improved to match the character of the houses along 91st and 92nd Streets.*

Community Center activities will be maintained in this area. The Community Center complex presently houses the Senior Citizens Center and LCARA offices. A sales office and information center is also proposed for development in the complex.

Implementation of the Preferred Alternative in Sub-Areas 6 and 7 will be dependent upon factors beyond the control of the project sponsor. These factors relate to the ownership of land within these sub-areas. Areas not under the jurisdiction of LCARA includes the Niagara Falls Housing Authority property, private owned homes along 93rd Street as well as the 93rd Street School property.

LCARA is presently conducting on-going discussions with the NFHA for the purchase of Sub-Areas 6 and 7. If acquisition does not occur, LCARA and NFHA will ensure that development at the Love Canal site is compatible with the accepted Love Canal Area Master Plan.

The school district has expressed an intent to reuse the 93rd Street School as an instructional facility. A portion of the school site not to be utilized for instructional purposes has been identified by the Love Canal Area Master Plan for parkland and greenspace. A transfer of ownership of this portion of the property to the City of Niagara Falls could occur but is yet unresolved and/or undecided. The final determination will be of no consequence in use of the land identified in the Master Plan or in present and subsequent environmental reviews.

A number of short- and long-term proposals have been identified in a phasing plan for the Love Canal EDA. Short-term activities include the rehabitation of housing units in the Black Creek Village and 93rd Street areas, buffering the containment area and preparation of Sub-Area 1 as a gateway area to the City of Niagara Falls as well as complete remediation activities. Short-term activities, particularly the resale of homes can progress at the completion of the SEQR process and subsequent lifting of the New York State Supreme Court Injunction.

Long-term development has been identified for Sub-Areas 6 and 7 (the Niagara Falls Housing Authority property), 93rd Street School and Sub-Areas 2 and 3. Occurring within these areas identified for long-term development will be site specific development proposals which will require subsequent environmental assessments under SEQR in order to judge conformance with the criteria and thresholds identified in the FGEIS.

1.3 Environmental Setting

This section presents a brief discussion of the various components of the environmental setting which have been identified as significant to the implementation of the Preferred Alternative. A more detailed description of the environmental setting is provided in DGEIS Section 3.0.

1.3.1 Geology

The predominant bedrock geologic formation within the Love Canal EDA is the Lockport Dolomite, a *rock formation* composed of calcium *magnesium* carbonate. The Lockport Dolomite has been located at depths ranging from 20 to 45 feet below the land surface (United States Environmental Protection Agency 1982).

In the vicinity of the Love Canal, the Lockport Dolomite is overlaid by a deposit of glacial till ranging in thickness from 5 to 20 feet. The glacial till consists of an unsorted mixture of clay, sand and rock fragments deposited by the advance and retreat of glaciers. The glacial till is relatively impermeable (USEPA 1982).

Above the glacial till are layers of clay, silt and fine sand. Two glacial lakes are responsible for these deposits; Lake Dana and Lake Tonawanda (Lake Dana being the older of the two). Deposits from Lake Dana range from 6 to 29 feet. Deposits from Lake Tonawanda range from 3 to 8 feet (USEPA 1982). Permeability of these deposits was found to be relatively low.

Above the lake deposits are layers of silty sand, clayey silt and other fill materials ranging in thickness from but a few inches to approximately 3 feet (USEPA 1982). Permeability of these deposits was found to be relatively low.

Natural drainage and slow permeability are the major limitations to development at the Love Canal. However, extensive sanitary sewer and water systems will deter adverse impacts associated with the above. Resettlement efforts should not be adversely impacted.

1.3.2 Water Resources

Groundwater was found to occur in the Lockport Dolomite in three types of openings. These include bedding planes, vertical joints and solution cavities. Most of the water moving through the upper portion of the Lockport Dolomite was found to move through the horizontal bedding planes contained in the top 10 to 16 feet. The deposits above the Lockport Dolomite (the overburden material) were found not to be significant sources of water for the area (USEPA 1982). No adverse impact to groundwater reserves will occur.

Surface water bodies at the Love Canal include the Black and Bergholtz Creeks and an approximate 25 acre NYSDEC regulated "Class II" wetland. Appropriate measures will be taken to prevent adverse impacts to these areas and are described in DGEIS Chapter 5.0.

According to applicable Federal Emergency Management Agency (FEMA) floodplain insurance maps, a 100 year floodplain exists in the northern section of the EDA encompassing the immediate area surrounding the Black and Bergholtz Creeks, portions of Mason Drive, 99th Street and Black Creek Drive. The floodplain encompasses the length of entire streets including Moschel Court, 100th Street, 101st Street and Mueller Court. This area is classified as Zone A. All properties will be required to

have flood insurance at time of resettlement.

A preliminary updated flood insurance boundary map has been developed by the City of Niagara Falls which depicts a more expansive 100 year floodplain boundary. This new map has not yet been adopted by the City of Niagara Falls.

1.3.3 Air Resources

The Love Canal EDA is located in Niagara County which has a humid, continental climate. The North American continent is the primary source for air masses and weather systems that affect the County. Air flow from the south or southwest brings moisture to the region from the Atlantic Ocean and Gulf of Mexico.

Extensive air testing within the Love Canal EDA was conducted as part of the Habitability Study. The study was designed to detect low level, about 1 ppb, concentrations of air LCIC's (Chlorotoluene and Chlorobenzene) in residential structures and in ambient air in the EDA.

Of the 562 different homes sampled in the EDA, chlorotoluene was detected in only one home, and chlorobenzene was not detected in any home. There is no evidence to indicate that temporal, spatial or other variables influence air LCIC concentrations in EDA homes. Because LCIC's were detected in only one home, the importance of the effects of these variables on indoor air concentrations of LCIC's could not be determined.

1.3.4 Terrestrial and Aquatic Ecology

The Love Canal EDA contains no rare endangered plants, although one species, the Sky-Blue Aster, was identified as possibly existing on site. A plant survey was conducted and no trace of the Sky-Blue Aster was found within the EDA or the immediate environs. However, another protected plant, the Closed Gentian, was discovered off-site, south of the Class II wetland and west of 103rd Street. No trace of the Closed Gentian has been found within the boundaries of the EDA.

No significant animal species are reported to exist at the Love Canal EDA.

An approximate 25-acre NYSDEC regulated Class II wetland exists on the site. Class II wetlands are regulated by 6 NYCRR Part 664.5. Development within and near to a DEC classified wetland requires a permit as per regulations provided in 6 NYCRR Part 663.4 and 663.5.

1.3.5 Transportation

The historic form of Niagara Falls is a north-south, east- west grid of streets. Major NYS Routes include Route 62 (Niagara Falls Boulevard) and Route 265/384 (Military Road/ River Road). Another major access route is Pine Avenue.

In the vicinity of the Love Canal EDA, major access to the site is acheived from Williams Road via Colvin Boulevard or by Frontier Avenue as well as by numerous secondary access points such as River Road/Buffalo Avenue.

1.3.6 Land Use and Zoning

Land uses in the immediate vicinity of the Love Canal EDA include an extensive transportation network, residential areas, commercial areas and hazardous waste landfills.

The Love Canal EDA is *predominantly vacant land and/or housing units with* approximately 60 active residential units *scattered throughout the project also*. Most housing units are boarded up, some are burned out and some are in serious need of repair. The central portion of the EDA is the location of the Love Canal where toxic chemicals *have been successfully contained by the DEC*. This area was also the location of the Ring I and Ring II houses. The central portion of the site is presently a well manicured grassy area *enclosed* with an eight foot chain link fence. *The leachate collection system is located within this fenced area*. The western portion of the site is predominantly vacant land which at one time was the location of a public housing complex. The western portion of the site also encompasses the western side of 93rd Street which contains 70 single family homes. The eastern and northern portions of the site are predominantly comprised of vacant housing units interspersed with approximately 60 active, residential units. The southern portion of the EDA is to serve as a greenway and/or scenic entry to the City of Niagara Falls along River Road and the Love Canal EDA along 102nd Sreet. The southern portion contains *open space* areas, vacant buildings, a home and a bar.

The Preferred Alternative envisions single family residential to the north, commercial, industrial and office development to the east and medium density Planned Residential Development to the west. No development is planned inside the fenced containment area.

The area of the Love Canal EDA included within the Town of Wheatfield is zoned R-2. The area of the EDA in the City is zoned R-1, R-1-A and R-1-G. Present zoning generally conforms to uses proposed in the Preferred Alternative, with the

exception of Sub-areas 2 and 3, which will require a zoning reclassification from residential to commercial.

1.3.7 Community Services

The Love Canal EDA is serviced by two school districts, the City of Niagara Falls City School District and the Niagara Wheatfield Central School District. The elementary schools in the City of Niagara Falls are presently underutilized. The middle and high schools are presently overutilized. Enrollment district wide is expected to increase by approximately 400 students at full buildout of the Preferred Alternative. The single family residences will produce approximately 219 students (K-6: 138, JHS: 46, HS: 35). The medium density residential portion will produce approximately 218 students (K-6: 131, JHS: 48, HS: 39).

Police and fire protection in the EDA is provided by the City of Niagara Falls Police and Fire Departments and by the Niagara County Sheriff's Department and Frontier Volunteer Fire Company.

The Town of Wheatfield maintains approximately 65 acres of park and recreation areas throughout the Town. The City of Niagara Falls maintains approximately 843 acres of park and recreation areas in the City. All park areas are heavily used and the proposed park land in the Preferred Alternative will help ease the heavy utilization of existing park areas.

Water and sewer service is adequate and capacity exists to accomodate both residential and commercial, light industrial and office uses.

Tax revenues accruing to the City of Niagara Falls and the Town of Wheatfield will be greatly enhanced as a result of repopulating and new development at the Love Canal.

1.3.8 Demography

An increase of of up to 2,656 people will result from resettlement activities at the Love Canal EDA. Refer to FGEIS Section 3.8 for more information regarding the demographics of the site.

A *demand for housing units* exists in the LaSalle Neighborhood immediately adjacent to the Love Canal EDA. Housing units in the Black Creek Village and 93rd Street areas will help to satisfy this *demand* for housing units. A phased sale of homes will occur to prevent adverse impacts upon the Niagara Falls housing market in terms of average sales price and length of

time on the market.

An analysis of commercial permit issuance data in surrounding communities as well as commercial trends in the Niagara Falls Region support additional commercial, light industrial and office development at the Love Canal EDA.

1.3.9 Cultural Resources

The Love Canal EDA is comprised of occupied and unoccupied housing structures and contains areas of vacant and visually unattractive open space areas. Implementation of the Preferred Alternative will greatly improve the visual appearance of the Love Canal EDA.

No significant archaeological or historic resources have been identified by the New York State Museum Prehistoric Site Files and the New York State Office of Parks, Recreation and Historic Preservation. *However, LCARA is to conduct an historic survey for all properties 50 years and older before any demolition activities begin in order to determine if these units possess possible historic significance.*

Noise at the Love Canal EDA will be derived from periods of active construction as well as on-going day to day use of the site (e.g., residential, commercial, and light industrial).

1.4 Significant Environmental Impacts

This section presents a brief discussion of the potential adverse and beneficial environmental impacts identified as significant to the proposed action. A more detailed discussion of the potential impacts is provided in FEIS Section 4.0.

1.4.1 Geology

Ground disturbance will occur at the Love Canal EDA as a result of implementation of the Preferred Alternative, especially in Sub-areas 2, 3, 6 and 7 and as the 93rd Street School. Ground disturbance in Sub-areas 2 and 3 will be due to the demolition of existing homes due to deterioration from standing vacant for 9+ years. Post demolition activities will include grading the site. Sub- areas 6 and 7 have undergone significant ground disturbance already due to demolition of the HUD housing complex. Future disturbance will greatly depend upon the type of medium density housing to be developed at the site. Land disturbance at the 93rd Street School *could be limited to planned remediation activities by the NYSDEC as well as other activities required to prepare the site for reuse as an educational facility (e.g., placement of playground equipment, landscaping).*

In addtion to the above activities, ground disturbance will result from the NYSDEC's commitment to remediate Sub-Areas 2 and 3. The parameters for remediation of Sub-Areas 2 and 3 have not been identified by the NYSDEC. Soil sampling has been completed to determine the extent of contamination. The samples have been sent to the New York State Department of Health for analysis. When the extent of contamination has been identified, parameters for remediation will be finalized. When the full scope of remediation activity is determined the impacts associated with removal of contaminants can then be comprehensively identified and discussed.

1.4.2 Water Resources

Siltation of the site's surface water bodies (Black and Bergholtz Creeks and a NYSDEC-regulated Class II wetland) could occur as a result of construction at the site. The increase in impervious surfaces could impact rate of runoff into drainage systems. Storm water wash from driveways and commercial areas could increase pollutant loadings into the creeks.

1.4.3 Air Resources

Increased carbon monoxide levels, particulates and dust will occur during construction. After full implementation of the Preferred Alternative, resident and employee vehicle emissions will increase, but should have an insignificant impact on local air quality.

1.4.4 Terrestrial and Aquatic Ecology

Potential short-term adverse impacts due to implementation of the Preferred Alternative include sedimentation, loss of vegetation and some loss of wildlife habitat (neighborhood animals such as squirrels, birds, etc.). Impacts will also arise as a result of the NYSDEC's proposal to remediate Sub-areas 2 and 3 and the 93rd Street School site.

Long-term impacts would result primarily from impervious surfaces and rehabitation associated with development at the Love Canal site especially, in Sub-areas 2-3 with development of new commercial, office and light industrial activities and 6-7 with development of approximately 825 new units of medium density residences.

1.4.5 Transportation

New development and rehabilitation efforts at the Love Canal will increase the amount of traffic within and outside of the EDA. It is estimated that the Preferred Alternative will produce the following trip numbers:

Weekday	22205
AM	2632
PM	2494
Saturday	18344
Sunday	13886
Saturday (peak)	1676
Sunday (peak)	1360

1.4.6 Land Use and Zoning

Implementation of the Preferred Alternative will result in a change of land use in Sub-areas 2 and 3 from residential to a Planned Commercial Development District which will include commercial, light industrial and office uses. A rezoning action will be necessary to accomodate this change in land use. *Although a zoning change is a Type I Action under SEQR, the FGEIS could satisfy future SEQR review requirements if the City of Niagara Falls and the Town of Wheatfield determines, as a result of their findings, that the FGEIS contains sufficient information to base a zoning change decision upon.*

1.4.7 Community Services

An increase of 437 students is expected from implementation of the Preferred Alternative (K-6: 269, JHS: 94, HS: 74). The expected increase in students is not expected immediately since implementation of the Preferred Alternative will be a phased program.

The City of Niagara Falls School District has determined that a need exists for utilizing the 93rd Street School as an educational facility. The district has cited a number of factors in addition to the district's projected increase in student enrollment which have influenced their decision. These include the erosion of the non-public school sector, increased student services such as pre-kindergarten, latch key programs which will require space in already strained facilities. Other factors include the planned revitalization of the EDA, the potential for magnet schools and the general economic resurgence of the Niagara Falls community and environs.

1.4.8 Demography

At full implementation of the Preferred Alternative, population at the Love Canal will increase by approximately 2656 people. *This is approximately the same as the "Pre-Love Canal" population.* It is also estimated that the proposed commercial, light industrial and office uses at the Love Canal EDA will produce 2398 new employees.

Resettlement of the Love Canal EDA will produce both short- and long-term impacts. In the short-term, approximately 253 housing units *located in EDA Sub-Areas 4 and 5 and along 93rd Street* will be returned to the Niagara Falls real estate market; primarily from the Black Creek Village and 93rd Street areas. A phased sale of homes will be necessary to prevent adverse impacts to the Real Estate Market in terms of average sales prices and length of time on the market. In the long-term, new construction of housing will occur, primarily in Sub-areas 6 and 7.

1.4.9 Cultural Resources

The visual appearance of the Love Canal EDA will be greatly enhanced as a result of implementation of the Preferred Alternative. Physically deteriorated housing units will be demolished in Sub-areas 2 and 3 while active marketing efforts will be undertaken to sell the homes in the Black Creek Village and 93rd Street areas. A landscape buffer will be created around the fence surrounding the containment area.

Development of Sub-areas 6 and 7 with medium density Planned Residential Development will greatly improve the appearance of the existing parcel, which is now a vacant, visually unattractive area.

No archaeological or historic resources are known to exist at the site.

Noise at the site as a result of implementation of the Preferred Alternative will be related to both construction and post construction phases.

1.5 Mitigation Measures to Minimize Environmental Impacts

1.5.1 Geology

As construction activity progresses in Sub-Areas 2, 3, 6 and 7 appropriate measures will be instituted to mitigate impacts to the site's geology. These will include appropriate erosion control measures, prompt grading and seeding, buffering, and

spraying roadways with water and reduced speed limits to lessen the level off-site dust transmission.

1.5.2 Water Resources

Degradation of surface water bodies at the Love Canal EDA, specifically the NYSDEC regulated Class II wetland, will be mitigated as a result of the 100 foot buffer zone *required as per applicable New York State DEC regulations.* Additionally, a silt fence and/or hay bales will be placed along the boundary of the wetland during remediation of Sub-areas 2 and 3 and when demolition of housing units in Sub-areas 2 and 3 occurs. *These activities could adversely impact the wetland.*

1.5.3 Air Resources

Dust emissions off-site during periods of active construction will be mitigated by maintaining vegetative buffers where possible; proper handling of topsoil, grading and gravel; road wetting or cleaning as needed and implementation of a reduced speed limit.

1.5.4 Terrestrial and Aquatic Ecology

Since no trace of the Sky-Blue Aster was found at the EDA no discussion of mitigation measures will be required. Furthermore, since the Closed Gentian has been identified off-site no discussion of mitigation measures are necessary.

1.5.5 Transportation

Streets throughout the EDA will be upgraded and improved as identified by the City of Niagara Falls City Engineer's Office. These improvements are identified in FGEIS Section 5.5 and in Appendix F.

1.5.6 Land Use and Zoning

The Preferred Alternative proposes a change in land use for Sub-areas 2 and 3 from residential to commercial, light industrial and office. To mitigate the impact upon approximately 30 existing residents, short-term development proposals have been developed. These include 1) the demolition of LCARA-owned parcels as well as the eventual acquisition and demolition of non LCARA-owned property, and 2) phased implementation of the development plan. These measures are designed to accommodate existing residents while preparations

are made for implementation of long-term development goals. *Furthermore, in order to prevent the social disruption of existing residents in Sub-Areas 2 and 3 due to development activities, existing residents will be given preferential treatment in resettling the targeted EDA.*

The Love Canal Area Master Plan proposes light industrial office park uses in Sub-Areas 2 and 3 which will not be in conformance with present zoning classifications for the area. This is considered an adverse impact relating to zoning. When a rezoning action occurs to accomodate proposed uses identified in the Preferred Alternative, this will remove the adverse impact.

1.5.7 Community Services

The increase in students will be adequately mitigated since implementation of the Preferred Alternative will be a phased program. This will allow the School District to adequately plan for future program and capital expansion, if necessary, in order to accommodate the increase in students.

1.5.8 Demography

In order to mitigate the adverse impact of placing all 253 homes in the Black Creek Village and 93rd Street areas on the Niagara Falls real estate market, a phased selling program has been proposed. *It has been determined by the LCARA Long Range Planning Committee and the Girasole Report that up to 50 to 70* units could be introduced on the market per year without adversely impacting the housing market in terms of average sales price and length of time on the market.

The phased selling program could be modified by LCARA depending upon the observed impact of selling homes.

1.5.9 Cultural Characteristics

No adverse impacts have been identified requiring mitigation.

1.6 Adverse Impacts Which Cannot Be Avoided If The Preferred Alternative Is Implemented

1.6.1 Geology

Soils will be exposed and some erosion of surface material will occur.

1.6.2 Water Resources

Some siltation of on-site surface water will occur. However, appropriate erosion control measures will be implemented when site specific development is proposed in the Love Canal EDA.

1.6.3 Air Resources

A minor increase of carbon monoxide levels will occur.

1.6.4 Terrestrial and Aquatic Ecology

There will be some loss of tree stock and vegetation.

1.6.5 Transportation

Some minor delays could occur temporarily during implementation of various components of the Preferred Alternative.

1.6.6 Land Use and Zoning

There will be a change in land use as a consequence of the Preferred Alternative. Sub-areas 2 and 3 are presently a residential area. The Preferred Alternative has proposed a change in land use from predominantly residential to commercial, light industrial and office. A zoning reclassification will be necessary as a result of this change in land use.

1.6.7 Community Services

There will be an increase of 437 school children as a result of the resettlement of the Love Canal. However, the Niagara Falls City School District does not expect any adverse impact from the resettlement and redevelopment of the EDA. Any increase will be adequately absorbed. Implementation of the Preferred Alternative will produce the above number at full buildout. Actual distribution of students will depend upon site specific development.

1.6.8 Demography

There will be an increase in population due to the redevelopment of the Love Canal EDA. An increase of 2,656 persons is expected as a result of the implementation of the Preferred Alternative.

1.6.9 Cultural Resources

The Love Canal EDA will be visually improved as a result of the Preferred Alternative. Noise levels will increase slightly as a result of construction equipment and on-going residential activity due to resettlement.

1.7 Alternatives to the Preferred Alternative

Four alternatives to the Preferred Alternative were developed: the No-Action, Demolition/Sanctuary, Resettlement-in-Kind and the PUD Concept. The Preferred Alternative is a combination of the above.

The No Action Alternative does not envision any new development or rehabitation at the Love Canal EDA. The EDA would remain in its present condition and maintenance activities undertaken by the LCARA would continue.

The Demolition/Sanctuary Alternative envisions demolition of all structures at the site. The site would become a "passive museum" to induce an awareness of the toxic chemical problem at Love Canal and throughout the United States.

The Resettlement-In-Kind Alternative differs from the Preferred Alternative in that remediation and continuance of the present residential character of Sub-areas 2 and 3 is proposed. In addition, minimal commercial activity is to be developed in this alternative.

The PUD Concept is very similiar to the Preferred Alternative in that commercial development is the focus of Sub-areas 2 and 3 with residential development to the north of Colvin Boulevard. Differences include minimal commercial activity in Sub-areas 6 and 7 as well as mixed residential and commercial use in Sub- areas 2 and 3.

1.8 Irreversible and Irretrievable Commitment of Resources

There will be an irreversible and irretrievable commitment of land as a result of implementation of the Preferred Alternative in order to return the area to productive use once again. The Love Canal EDA was once an active and fully occupied residential area in the City of Niagara Falls in contrast to its presently vacant and very deteriorated condition.

1.9 Growth Inducing Aspects

Implementation of the Preferred Alternative will create 2656 new residents in the Love Canal EDA resulting from resettlement activities. In addition, 2398 new employees will result from development of commercial, light industrial and office activities at the site. Resettlement and redevelopment will greatly enhance the visual appearance of the site which is now predominantly vacant and very deteriorated. *Furthermore, a variety of public service impacts will result as well as a direct income effect and indirect economic effects.*

1.10 Effects on the Use and Conservation of Energy

Electricity and natural gas will be provided by the Niagara Mohawk Power Corporation and National Fuel, respectively.

Both short- and long-term energy demands will result *due to* implementation of the Preferred Alternative. Short-term energy demands will result from the use of heavy equipment to develop each phase of the Preferred Alternative. The most immediate use of energy will occur in the rehabilitation and selective demolition of single family housing units in the Black Creek Village and 93rd Street areas.

Long-term energy demands will result from the actual resettlement and redevelopment of the Preferred Alternative.

The implementation of the Preferred Alternative will also act to conserve energy resources by lessening commuting time into the City and through use of existing structures.

1.11 Approvals, Permits and Reviews

Implementation of the Preferred Alternative will require certain approvals, permits and reviews from applicable agencies. The following is a list of agencies with their corresponding approval, permit or review authority.

Love Canal Area Revitalization Agency (LCARA)

Lead Agency for SEQR process: Determines significance of project, determines completeness of DGEIS, conducts public hearing (if necessary), causes FEIS to be prepared and determines completeness and makes findings.

New York State Disaster Preparedness Commission (NYSDPC)

The NYSDPC has the primary responsibility of overseeing the expenditure of all funds by LCARA in excess of $25,000. Furthermore, the DPC is also an "Involved Agency" with respect to the SEQR process associated with LCARA's implementation of the Master Plan for the revitalization of the EDA as per 6 NYCRR Part 617.2. The DPC is required to issue its own findings as per 6 NYCRR Part 617.9 (c).

New York State Department of Environmental Conservation (NYSDEC)

A wetlands permit may be necessary since a Class II wetland exists in Sub-Areas 2 and 3.

United States Environmental Protection Agency (USEPA)

The Love Canal Area Master Plan must be submitted to the EPA for review.

New York State Division of Housing and Community Renewal
Hampton Plaza
38-40 State Street
Albany, NY 12210

Has provided LCARA with funding for activities at the Love Canal EDA.

City of Niagara Falls
Town of Wheatfield

Must approve all changes to the City and Town Zoning Ordinance and approve major development initiatives in the City and Town.

City of Niagara Falls Planning Board
Town of Wheatfield Planning Board

Site plan review for site-specific development proposals in later phase of Master Plan implementation.

City of Niagara Falls Utilities Department
Town of Wheatfield Water and Sewer Departments

Linkage of new commercial, light industrial, office and Medium Density Planned Residential Development to Municipal and Town water and sewer systems.

1.12 Distribution of FGEIS

Involved Agencies

Love Canal Area Revitalization Agency (LCARA)
9501 Colvin Boulevard
Niagara Falls, NY 14302

New York State Disaster Preparedness Commission
Dr. Stasiuk
2 University Place
Room 350
Albany, NY 12207

NYS Department of Environmental Conservation (NYSDEC)
Commissioner Jorling
50 Wolf Road
Albany, NY 12233

NYS Department of Environmental Conservation (NYSDEC)
Region 9
Mr. Steven Doleski
600 Delaware Avenue
Buffalo, NY 14202

US Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Federal Emergency Management Agency
500 C Street S.W.
Washington, D.C. 20472

City of Niagara Falls
City Hall
Niagara Falls, NY 14302

Town of Wheatfield
2800 Church Road
North Tonawanda, NY 14120

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Purpose and Need

The proposed action is the adoption of the Love Canal Area Master Plan for the Love Canal EDA by the Love Canal Area Revitalization Agency (LCARA). Implementation of the Preferred Alternative will serve the purpose of revitalizing an approximate 350 acre predominantly vacant and underutilized parcel of land within the City of Niagara Falls and the Town of Wheatfield. The primary result of redevelopment activity at the Love Canal EDA will be to return this land to viable use once again.

The public benefit to be served by redevelopment at the Love Canal will be to return some sense of order and continuity to the lives of those who chose to remain at the EDA. The Love Canal in its present state is equivelant to a ghost town. Redevelopment of the Love Canal EDA will serve to put an end to the unnatural silence so uncharacteristic of a bustling urban metropolis. Furthermore, redevelopment of the Love Canal will create a wide range of economic, social, environmental and land use benefits for the City and Town.

Lastly, revitalization of the Love Canal EDA is an integral component of LCARA's Enabling Legislation embodied in Section 950, Title 3 of the General Municipal Law.

Furthermore, in his approval message of the above, then Governor Hugh L. Carey stated the following:

"This bill creates the Love Canal Area Revitalization Agency as an essential part of the State's effort to protect and assist the citizens of the Love Canal area.

The agency created under this legislation is established as an industrial development agency with additional powers normally associated with urban renewal agencies. It will be able to use unissued bonds originally authorized for urban renewal purposes. These bonds, in the amount of $5 million, together with federal funds which I hope will be made available to supplement state funds, will be used to implement a program for the revitalization of the area surrounding the Love Canal. The revitalization program could include the purchase of homes, development of open park land and construction of such other facilities as the agency deems appropriate.

If adequate funds are made available by the Federal Government, the Love Canal Revitalization Agency will become the entity which finally concludes the period of fear and confusion experienced over the past few years by the residents of the Love Canal area.

I look forward to full federal and local cooperation in the work of this vital agency.

The bill is approved."

2.2 Background and History

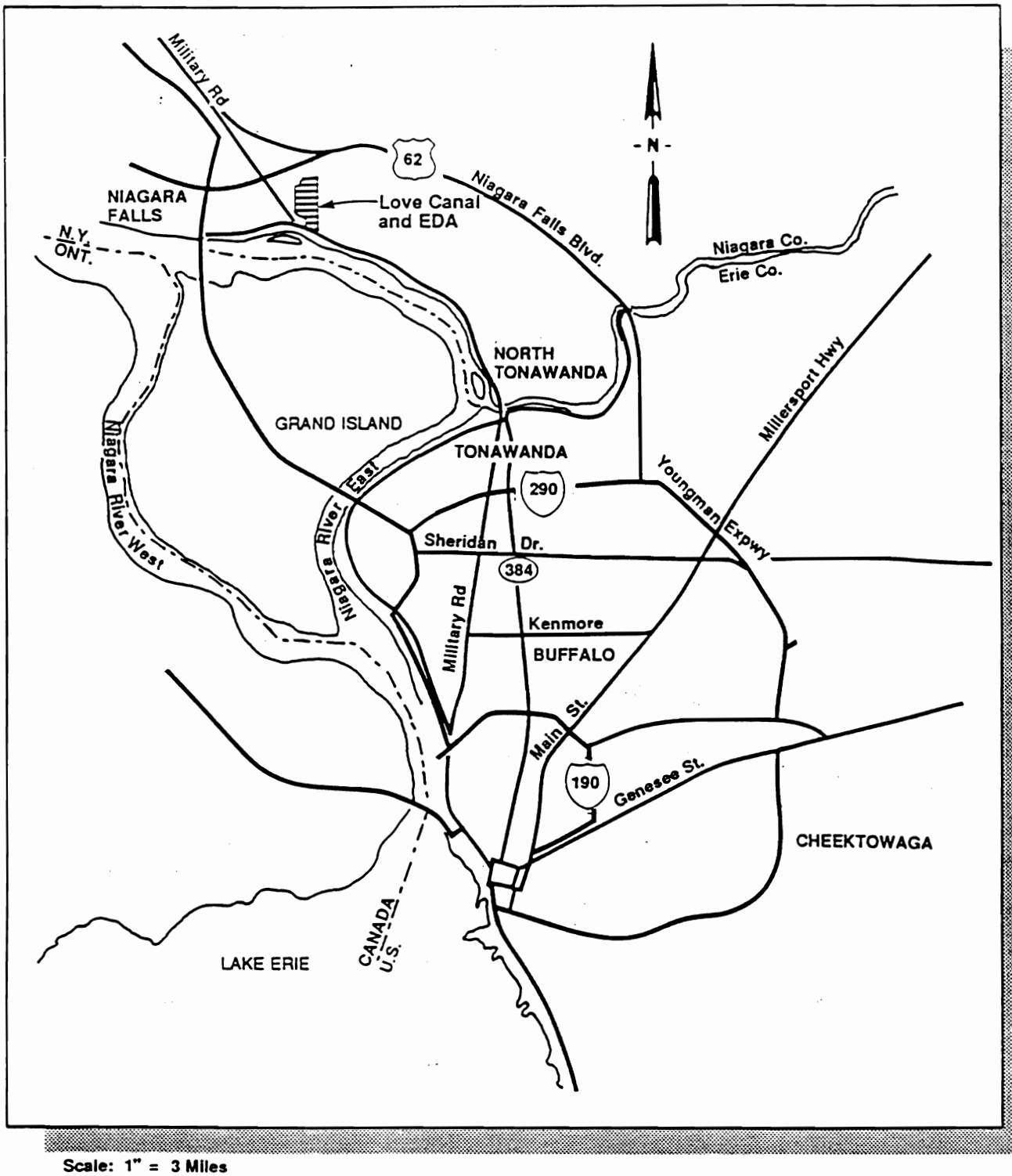
The former Love Canal landfill is a rectangular, 16-acre tract of land located in the southeast end of the City of Niagara Falls, NY in Niagara County on the western frontier of the State of New York. Figure 1 and Figure 2: REGIONAL CONTEXT MAP and LOCAL CONTEXT MAP graphically depict the location of the Love Canal landfill site.

The canal is named after William T. Love, whose plan it was in the 1890's to dig a canal connecting the upper and lower Niagara Rivers in order to provide cheap hydroelectric power for a model industrial city. As a result of the development of alternating current, industry did not have to locate near a major water source for its power needs. Therefore, the canal project was abandoned when only partially complete.

It remained in this condition and was used as a swimming hole and informal recreation area until Hooker Chemical Corporation purchased the abandoned canal for the purpose of dumping its chemical wastes. Active dumping of chemicals began in 1942 and ended in 1953 (NYSDOH 1981). During this period, Hooker Chemical Corporation disposed of at least 21,800 tons of chemical wastes into the canal (NYSDOH 1981). Figure 3: CHEMICALS DISPOSED OF IN LOVE CANAL BY HOOKER CHEMICAL CORPORATION (1942-1953), provides a listing of the chemicals actively dumped into the canal during this period.

Beginning in 1950, home building accelerated along the streets adjacent to the canal and within the existing residential neighborhood. In the Spring of 1953, the site was sold by Hooker Chemical Corporation to the City of Niagara Falls Board of Education. In 1954, the 99th Street School was built on the eastern third, adjacent to the Love Canal, and utilized a portion of the site as a playground (NYSDOH 1981).

During the years that followed, residents of the area surrounding the canal complained of chemical odors from the landfill. Residents reported that chemicals were breaking through the top-soil. Spontaneous fires on the canal were also reported as well as instances of children and pets being injured by chemicals while playing at the site.

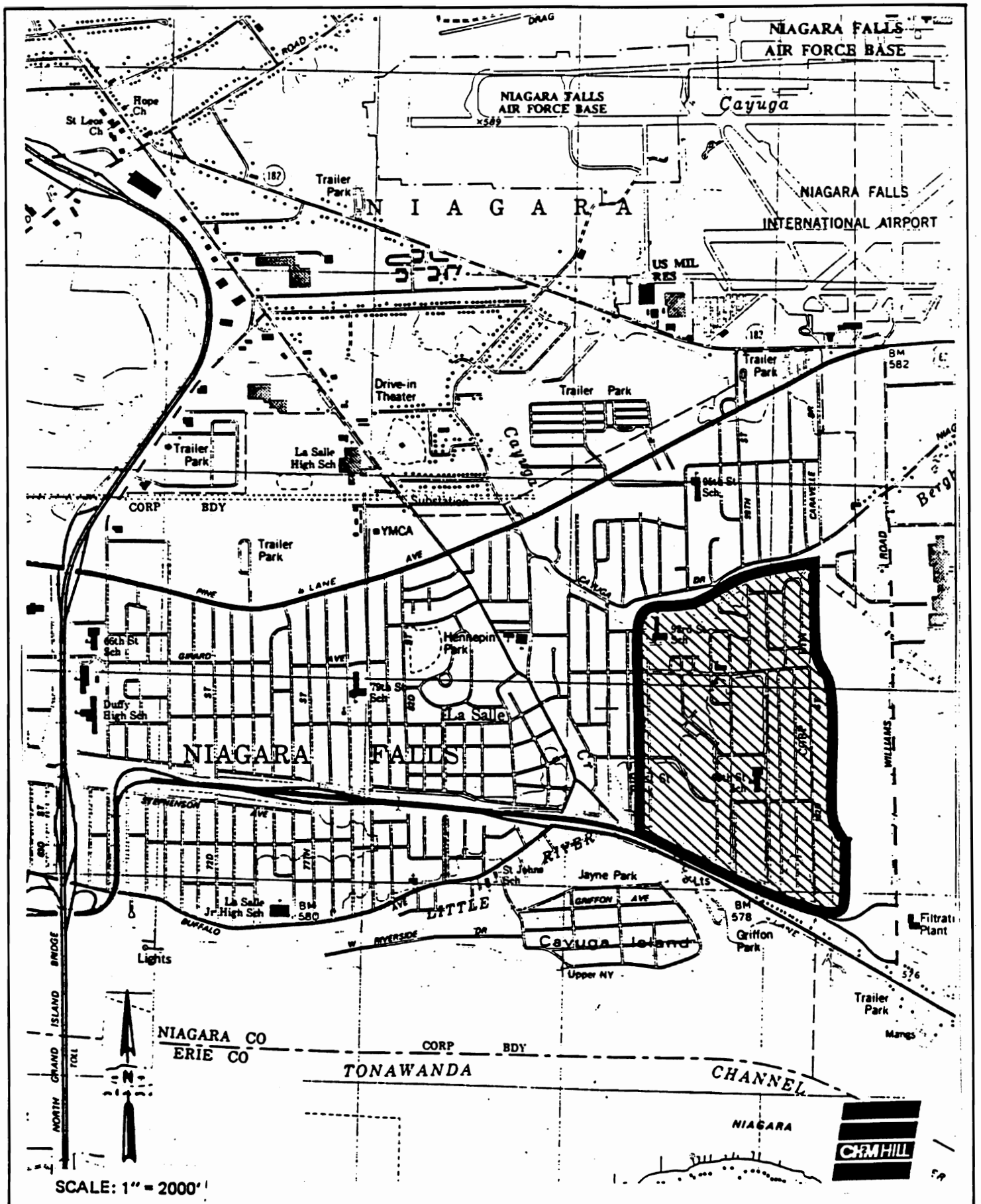


LOVE CANAL AREA MASTER PLAN

FIGURE 1: Regional Context Map

Source: Love Canal EDA Habitability Study, September 1988.

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FIGURE 2 : Local Context Map

Source: Soil Sampling Survey, REM IV, 1987.

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Type of Waste	Physical State	Total Estimated Quantity-Tons	Container
Misc. acid chlorides other than benzyol - includes acetyl, caprylyl, butyryl, nitro benzoyls	liquid and solid	400	drum
Thionyl chloride and misc. sulfur/chlorine compounds	liquid and solid	500	drum
Misc. chlorination - includes waxes, oils, naphthenes, aniline	liquid and solid	1,000	drum
Dodecyl (Lauryl, Lorol) mercaptans (DDM), chlorides and misc. organic sulfur compounds	liquid and solid	2,400	drum
Trichlorophenol (TCP)	liquid and solid	200	drum
Benzoyl chlorides and benzo-trichlorides	liquid and solid	800	drum
Metal chlorides	solid	400	drum
Liquid disulfides (LDS/LDSN/BDS) and chlorotoluenes	liquid	700	drum
Hexachlorocyclohexane (Lindane/BHC)	solid	6,900	drum and nonmetallic containers
Chlorobenzenes	liquid and solid	2,000	drum and nonmetallic containers
Benzylchlorides - includes benzyl chloride, benzyl alcohol, benzyl thiocyanate	solid	2,400	drum
Sodium sulfide/sulfhydrates	solid	2.000	drum
Misc. 10% of above		2,000	
	TOTAL	21,800	

LOVE CANAL AREA MASTER PLAN

FIGURE 3 : Chemicals Disposed of in Love Canal by Hooker Chemical Corporation (1942 - 1953)

Source: A Speicial Report to the Governor and Legislature,

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By the mid-1970's it became clear that rain water and melting snow, especially during the 1977 winter season, had forced chemicals to the surface and precipitated a lateral spread of chemicals into yards and basements of homes immediately adjacent to the canal. Through 1978, a series of health decisions was issued by the New York State Commissioner of Health declaring a state of emergency at the Love Canal. A presidential declaration of a state of emergency was also made. As a result of these events, the State was able to begin purchasing homes of those persons residing adjacent to the canal (NYSDOH 1981).

In 1980, a second presidential state of emergency was declared which allowed purchase of homes and relocation of approximately 700 families who lived near the landfill. Then Governor Carey also signed legislation creating the Love Canal Area Revitalization Agency (LCARA) with the express purpose of overseeing and administering the purchase of homes located within the Love Canal Emergency Declaration Area (EDA). Figure 4: LOVE CANAL EDA highlights the boundaries of the EDA.

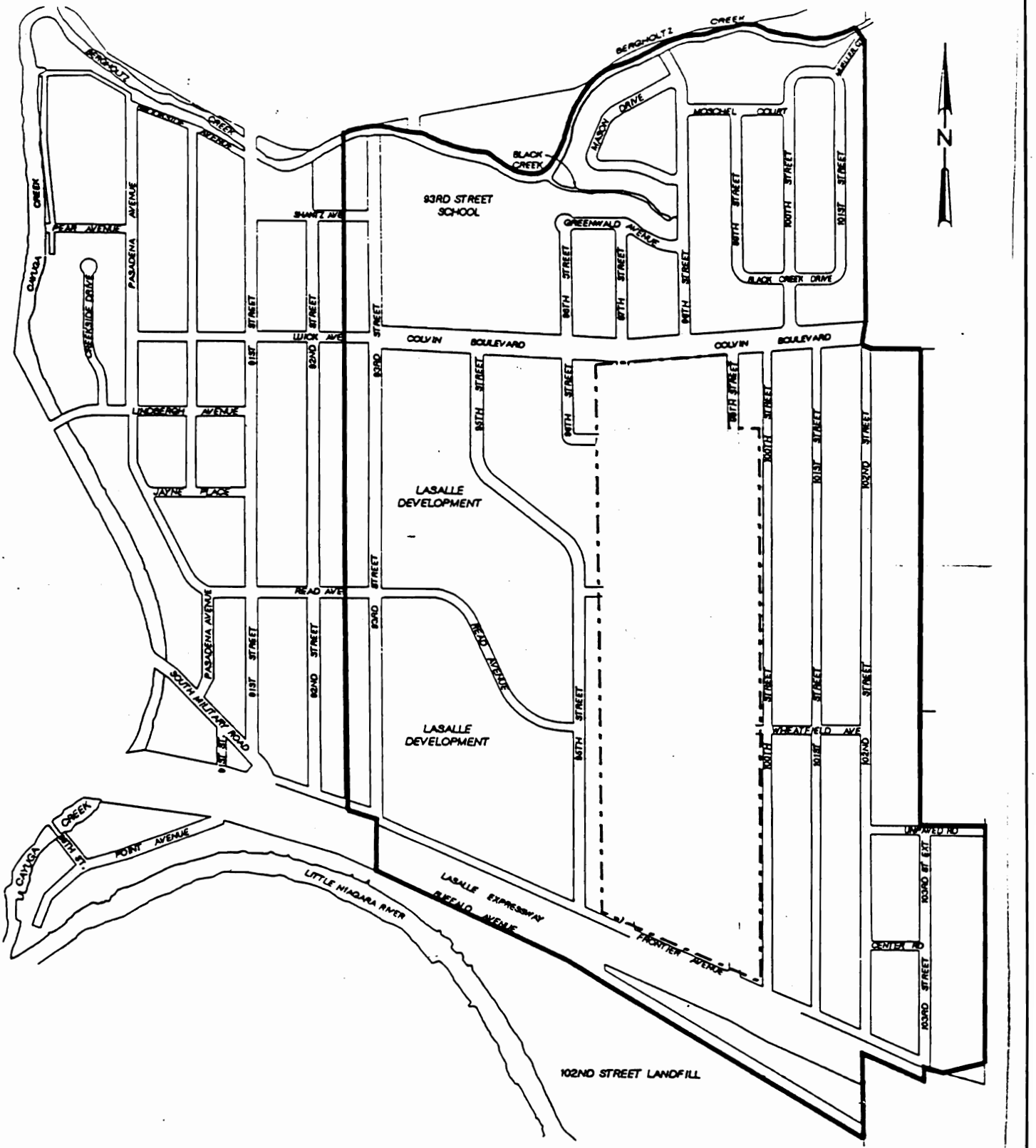
Subsequent to these events, a series of remediation measures has been undertaken at the site in three major phases (Love Canal Habitability Study 1988). For a graphic representation of Love Canal Remediation Phases, refer to Figure 5: TIME LINE OF LOVE CANAL REMEDIATION ACTIVITIES.

Phase I activities were instituted between October 1978 and November 1979. Phase I activities included the installation of a perforated drain pipe around the perimeter of the Love Canal, development of an on-site leachate pumping, storage and treatment system and placement of a three foot thick clay cap over the waste disposal area. Figure 6: LOVE CANAL OVERVIEW, Figure 7: LEACHATE COLLECTION SYSTEM, and Figure 8: LEACHATE TREATMENT PLANT, graphically describe the above-cited remediation measures.

Phase II activities progressed from December 1982 to December 1984. These measures were designed to enhance those put in place during Phase I. Phase II activities included the placement of a polyethelyne membrane over 40 acres of the Love Canal project area, which includes the canal itself and Ring I of the EDA. In addition to the membrane, 18 inches of topsoil was placed on top and covered with grass.

Other activities included the cleaning and inspection of the barrier drain system as well as the *cutoff of utilities at 97th and 99th Streets and Wheatfield and Read Avenues.*

Phase III activities have been completed. These activities include a perimeter survey and long-term monitoring, cleaning of sewers outside of Ring II, maintenance of homes, remediation of Black and Bergholtz Creeks and thermal destruction of sediments.



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FIGURE 4: Love Canal EDA

Source: Love Canal Emergency Declaration Area Habitability Study, 1988.

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FIGURE 5 : Timeline of Love Canal EDA Remediation

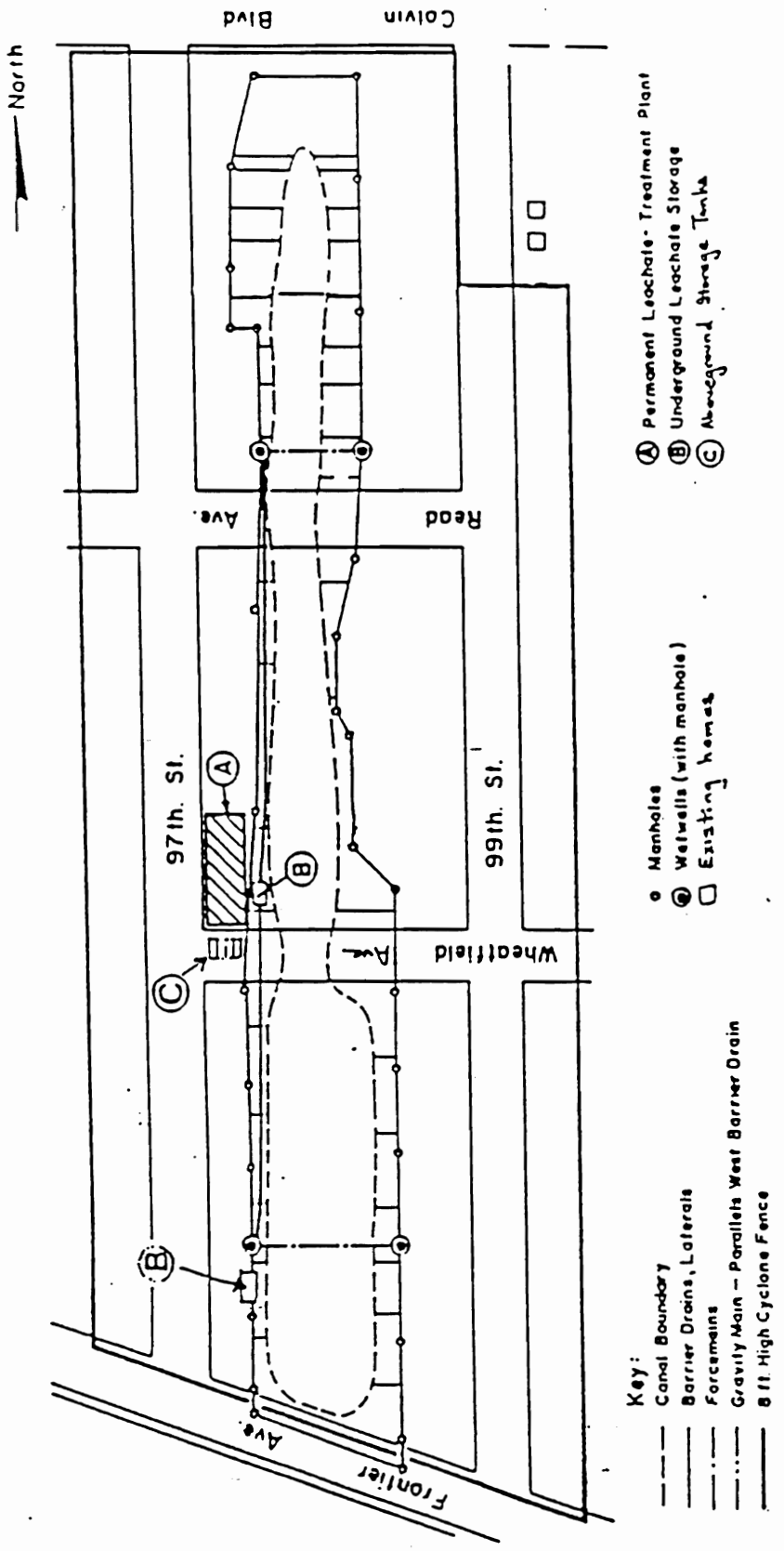
Source: Love Canal Emergency Declaration Area Habitability Study, 1988.

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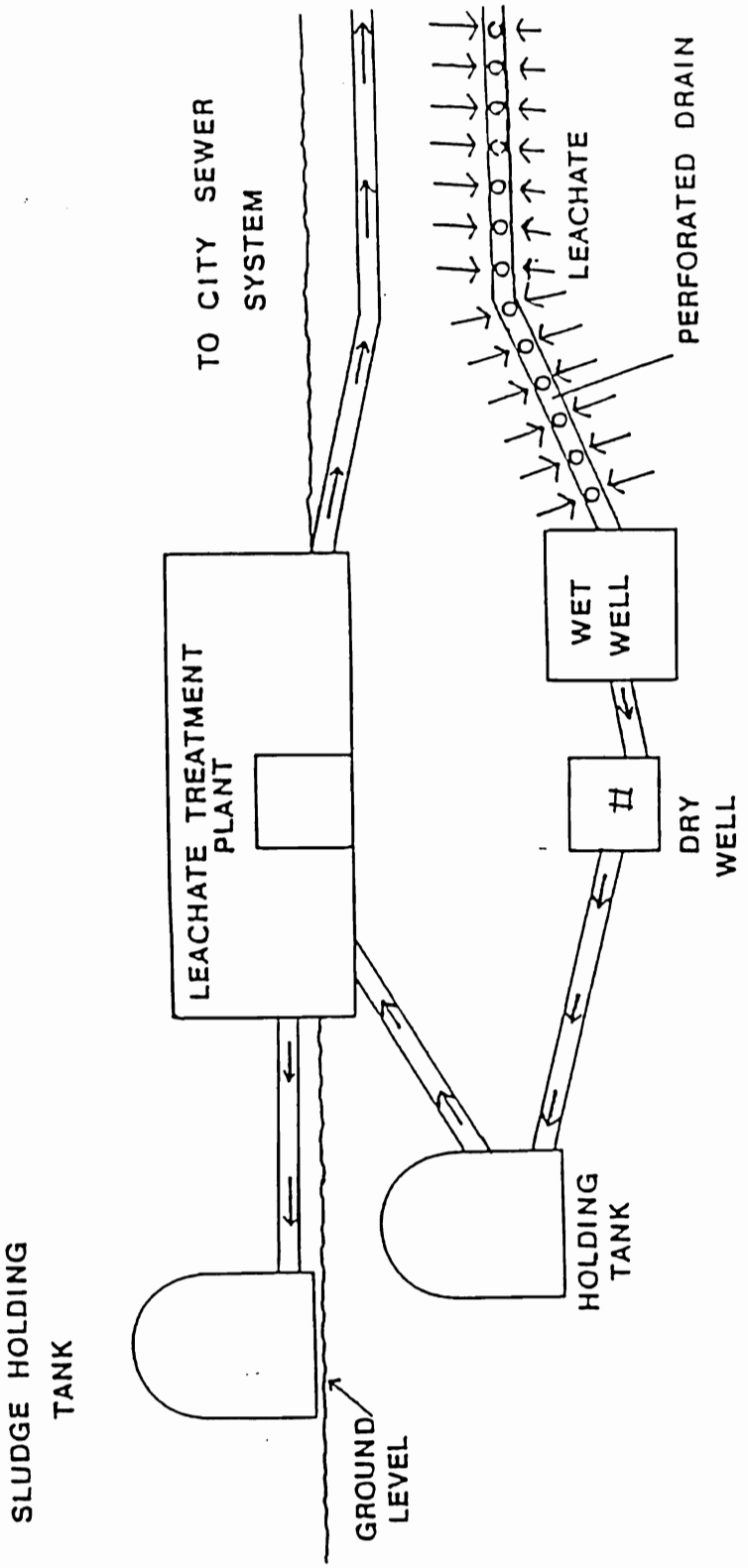
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FIGURE 6: Love Canal Overview
Source: Love Canal Landfill, Issue #7.

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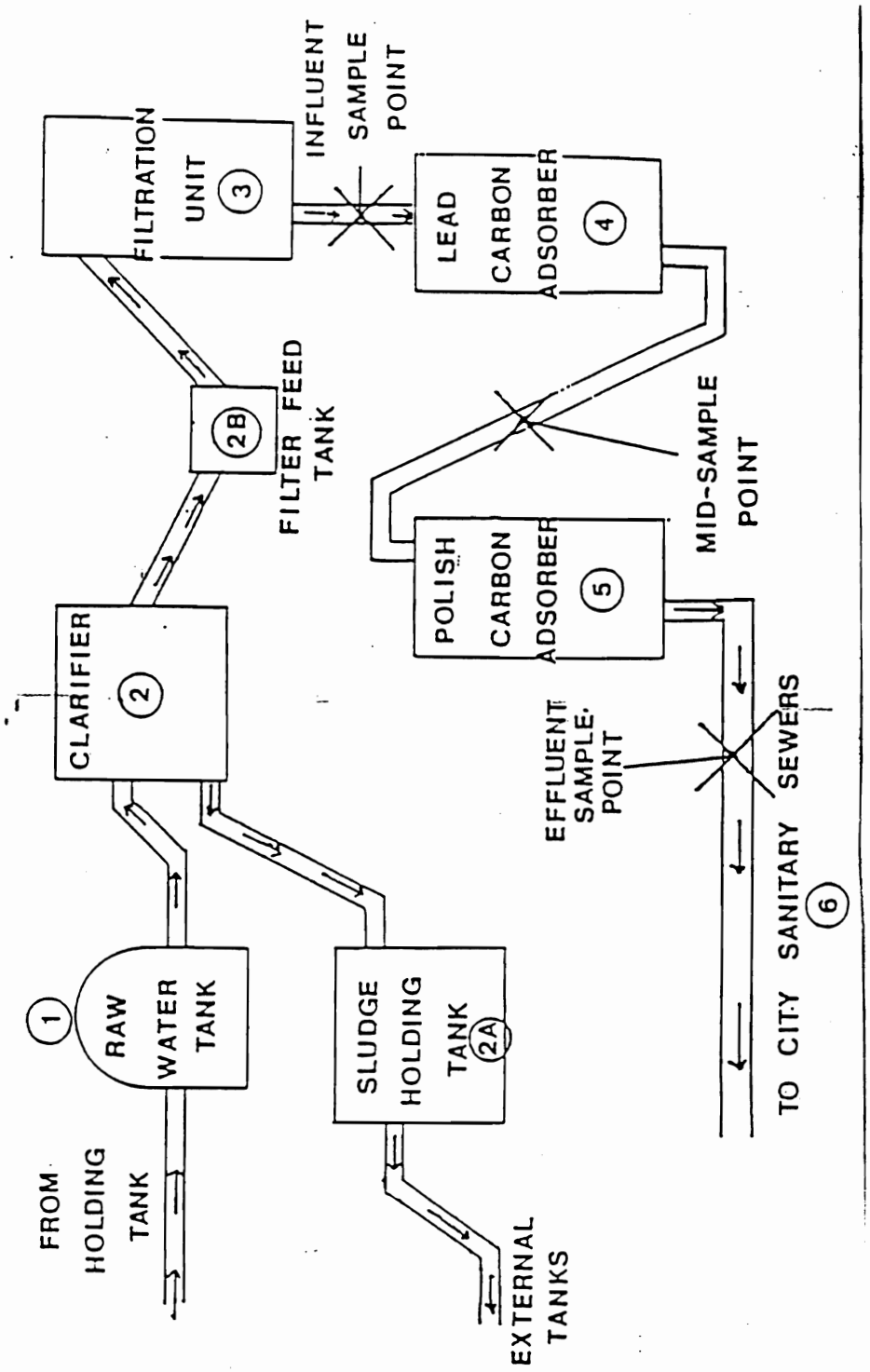


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FIGURE 7 : Leachate Collection System

Source: Love Canal Landfill, Issue #7

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FIGURE 8 : Leachate Treatment Plant

Source: Love Canal Landfill, Issue #7

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Other outstanding remediation activities which are being studied and dealt with separately from the above mentioned phases of remediation include the 93rd Street School and the 97th Street Methodist Church (NYSDEC Public Information Office 1989). Remediation of the 93rd Street School site should begin in 1990. No time line has been set for remediation of the 97th Street Methodist Church site, if any is required. *Furthermore, testing for BHC's in Sub-Area 4 is progressing. No significant findings are expected. Lastly, testing is underway by DOH to determine the extent of contamination of soil in Sub-Areas 2 and 3. A remediation plan will be developed by the NYSDEC upon receipt of thes results from DOH.*

After ten years of on-going testing and remediation, the Commissioner of Health, Dr. David Axelrod, has issued a statement deeming portions of the Love Canal EDA as habitable.

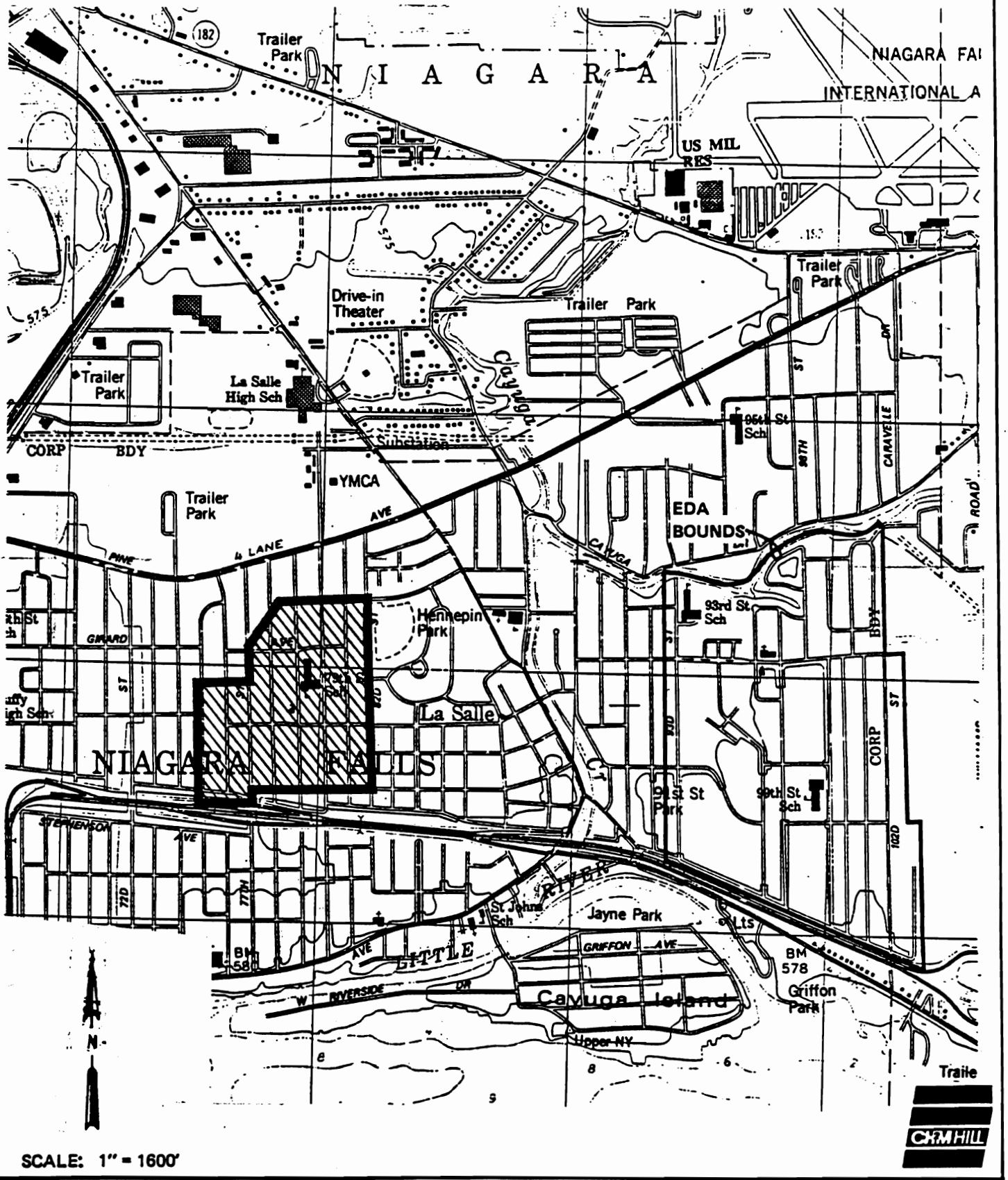
A comparison approach was utilized for assessing the presence of Love Canal Indicator Chemicals (LCIC) in the Love Canal EDA. Comparison areas selected include Niagara Falls census tracts 221 and 225, an area in the Town of Cheektowaga and an area located in The Town of Tonawanda. Figure 9: CENSUS TRACT 221 IN NIAGARA FALLS, Figure 10: CENSUS TRACT 225 IN NIAGARA FALLS, Figure 11: COMPARISON AREA IN CHEEKTOWAGA and Figure 12: COMPARISON AREA IN TONAWANDA, graphically depict the comparison areas. The Habitability Decision accepts the comparison areas identified above are habitable and normal for the region and also regards the presence of higher levels of LCIC's in parts of the EDA as evidence that these and other chemicals associated with the Love Canal have migrated or were displaced from the Love Canal (Decision on Habitability, September 1988).

The EDA was broken into sub-areas and conclusions were derived based upon these areas. Figure 13: EDA SAMPLING AREAS, graphically describes the boundaries of the sub-areas selected for analysis.

EDA 1 does not meet all of the criteria for habitability and thus is not suitable for normal residential use without remediation or cleaning up of contaminated soil. It can be used for commercial or industrial purposes without remediation.

EDA 2 and 3 do exceed the comparison criteria for habitability although to a much lesser extent than EDA 1.

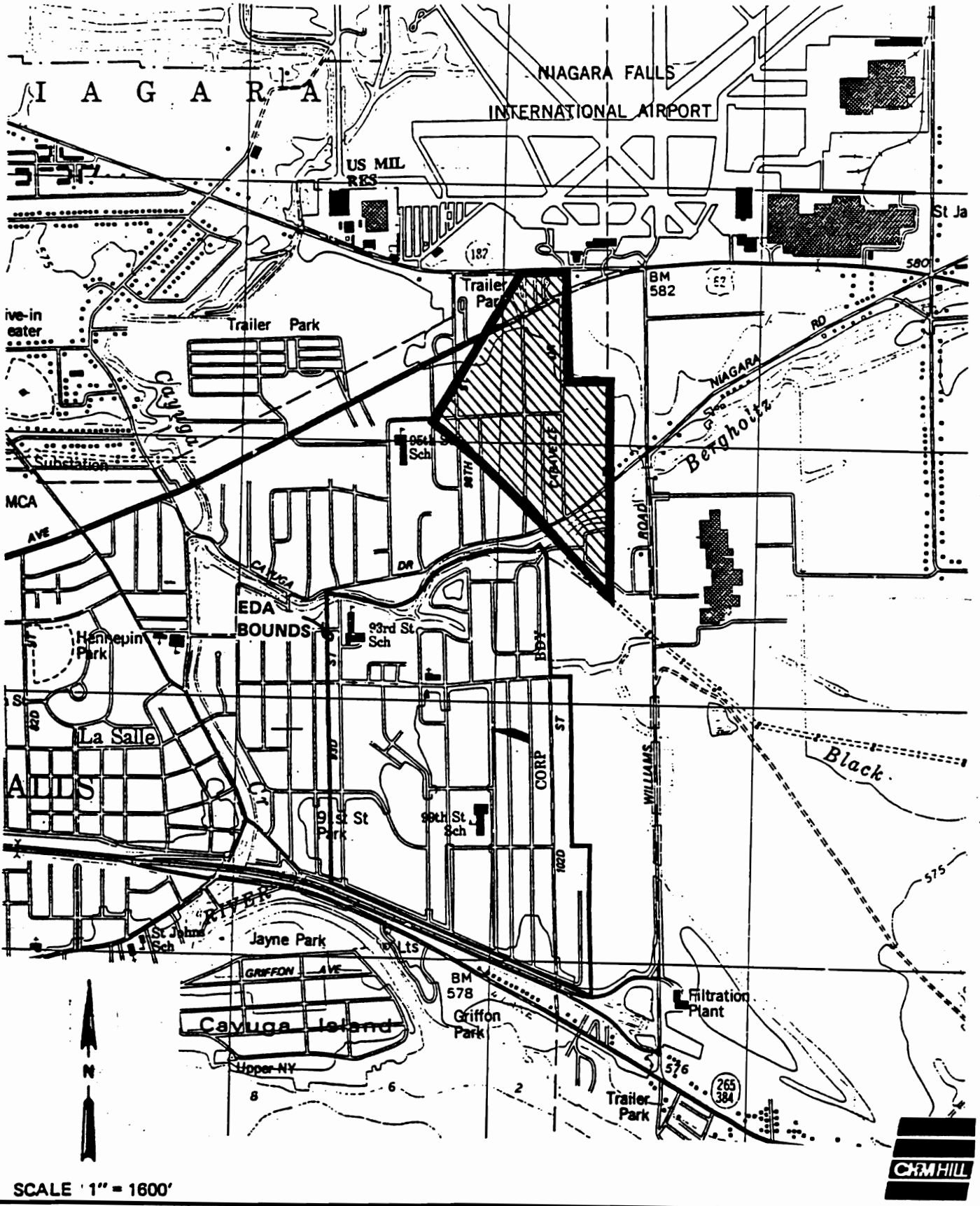
EDA 4-7 meet all of the habitability criteria and may be used for residential or other purposes.



LOVE CANAL AREA MASTER PLAN

FIGURE 9 : Census Tract 221 in Niagara Falls
Source: Soil Sampling Survey, REM IV, 1987.

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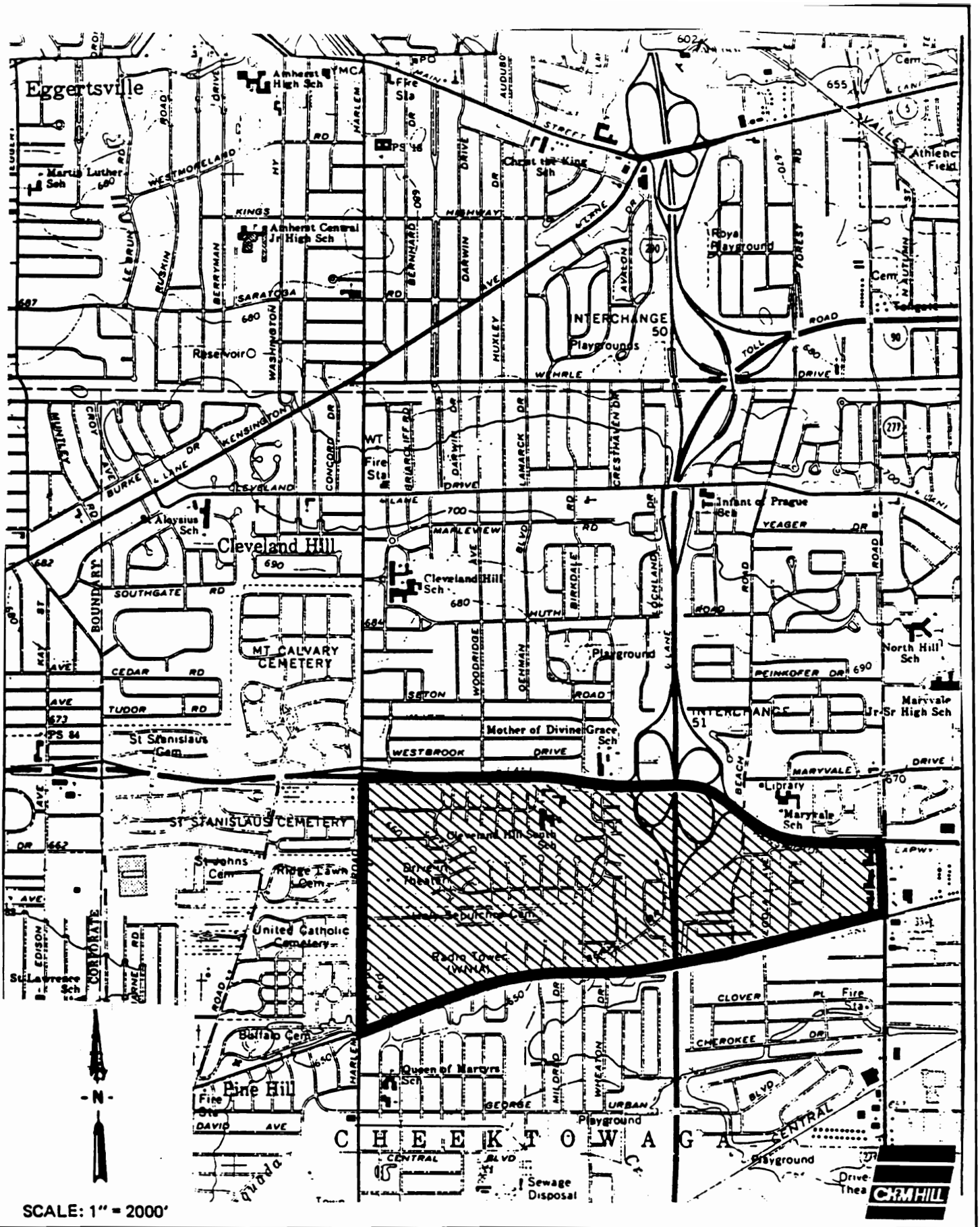
FIGURE 10 : Census Tract 225 in Niagara Falls

Source: Soil Sampling Survey, REM IV, 1987.

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FIGURE 11: Comparison Area Located in Cheektowaga, N.Y.

Source: Soil Sampling Survey, REM IV, 1987.

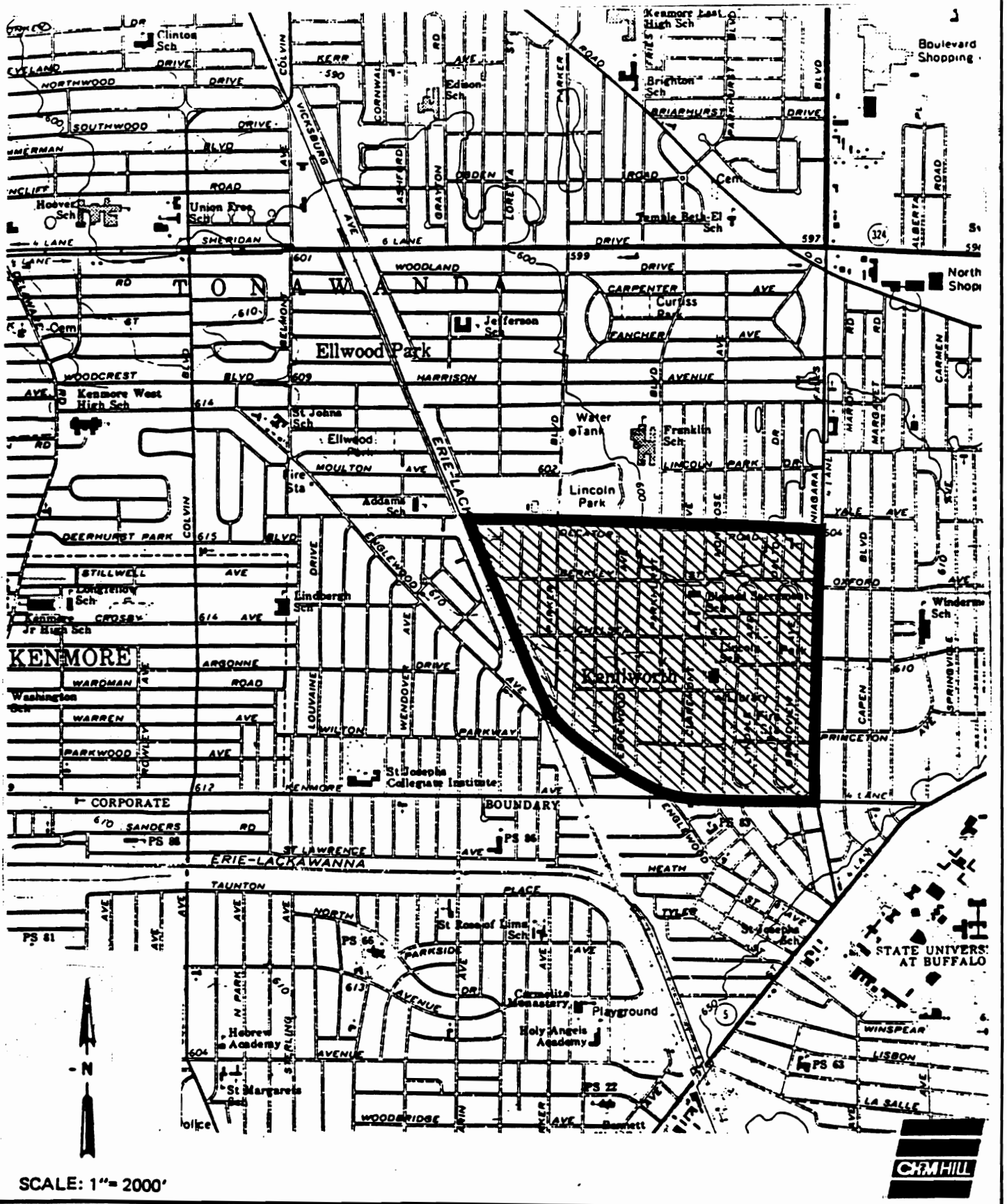
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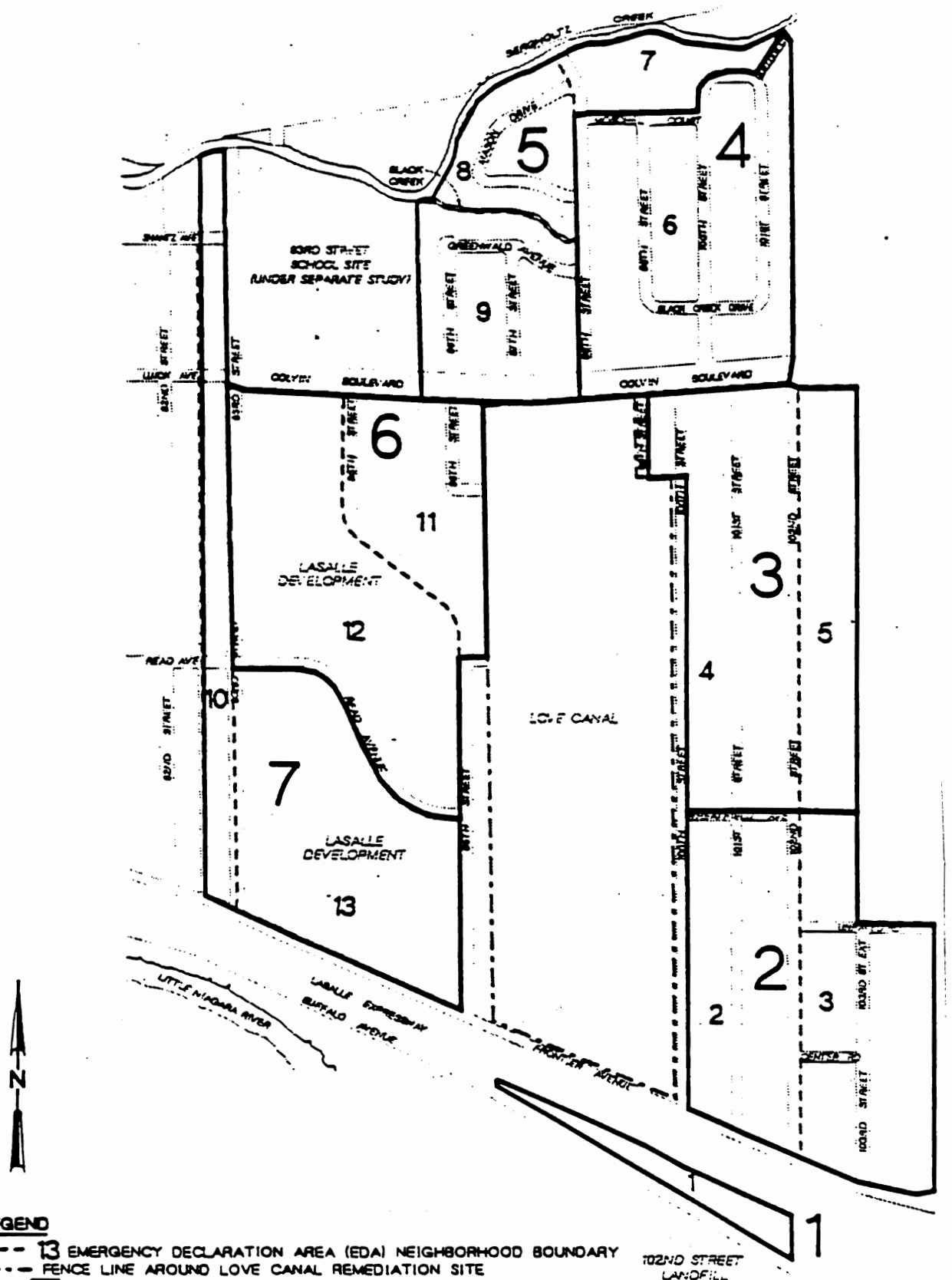
FIGURE 12 : Comparison Area Located in Tonawanda, N.Y.
Source: Soil Sampling Survey, REM IV, 1987.

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LOVE CANAL AREA MASTER PLAN

FIGURE 13 : EDA Sampling Areas
Source: Decision on Habitability, NYSDOH, 1988

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Deliberations of the Land Use Advisory Committee

Subsequent to the Habitability Decision, Dr. David Axelrod appointed a Land Use Advisory Committee to determine the highest and best use of the land surrounding the Love Canal Containment Area. The LUAC was a community based group of individuals representing the needs and desires of the Love Canal residents and of Niagara Falls. On July 11, 1989, the final report of the LUAC was transmitted to Dr. Axelrod.

LCARA previously adopted the recommendations of the LUAC. The minutes of a LCARA work session on July 14, 1989 state, "The final recommendations of the Land Use Advisory Committee have been received by all Agency members and in house. These recommendations will be consolidated with the plans of The Saratoga Associates (TSA)." The minutes further state, "Chairman O'Laughlin suggested that the Agency send a letter of appreciation to Father Harrington and the Land Use Advisory Committee for the work in the land use recommendations. A motion was made by Mr. Heuer and seconded by Mr. Cassata to formally thank the Committee and their work."

The following is a listing of the Land Use Advisory Committee's recommendations accompanied with an explanation of how LCARA has adopted or rejected particular recommendations. The recommendations of the Land Use Advisory Committee are located in FGEIS Appendix K.

I. GENERAL RECOMMENDATIONS

1 The Love Canal site should be isolated from the residential communities surrounding the site in a manner which is aesthetically pleasing and which enhances the whole EDA area.

LCARA Action: Screening of the Love Canal Containment Area from the rest of the EDA and produce a view of the fenced area which is more aesthetically pleasing.

2. Government should continue on-going monitoring of the area and research on clean-up an isolation of Love Canal hazardous wastes. This is to assure protection for existing and new residents and to identify new ways to deal with such wastes. Easements should be maintained along the fence surrounding the Love Canal site to ensure government access to the site in order to carry out continuous monitoring.

LCARA Action: The Love Canal Area Master Plan recognizes that on-going testing and remedial activities will occur at the Love Canal. The NYSDEC will have access to the fenced area and will obtain easements from LCARA where appropriate in order to undertake maintenance and monitoring activities necessary to ensure the Love Canal hazardous wastes remain contained.

3. *A Public Information and Environmental Education Center should be developed and maintained in the Love Canal EDA to serve as a resource for information on the history of the Love Canal. Several locations for this Center were discussed, including the 93rd Street School.*

   LCARA Action: A public information component will be present at the EDA during and after resettlement of the EDA. All prospective purchasers of Love Canal EDA housing units will be informed of the past history of the area.

II. RECOMMENDATIONS FOR HABITABLE AREAS (EDA AREAS 4 - 7)

The majority of the Committee believes that the EDA areas declared habitable by the Commissioner of Health should be revitalized for residential use. There are a number of conditions attached to that basic recommendation:

1. *Prior to resettlement, government agencies should invest in efforts to bring the area back to its earlier state as a viable neighborhood. This means upgrading houses, roads, street lights, landscaping, etc.*

   NYSDEC Action: The NYSDEC is currently assessing the extent of BHC contamination in EDA Sub-Area 4. No significant findings are expected. If remediation is required, nine properties will be impacted. These parcels will not be sold by LCARA until contaminants are removed, in necessary.

   LCARA Action: In a Board of Directors Resolution dated December 9, 1989, LCARA is commited to rehabilitating housing units before they are sold. Each house will be reappraised before sale. The City of Niagara Falls has identified improvements to the road network within the Love Canal. These improvements are identified in FGEIS Appendix K.

2. *Resettlement should be phased in--not all homes should be sold at once. This is for two reasons: to avoid flooding the real estate market, and to assure that homes being impacted by remediation of creeks are not sold while that*

work is continuing. In other words, people should not be moved into the areas next to creek excavation work or transport routes. The Niagara Falls Area Board of Realtors should be consulted on marketability issues.

LCARA Action: In a Board resolution dated December 6, 1989, LCARA resolved to "invite the participation of the local realty community to assist in sales of LCARA owned homes." Furthermore, based upon the Girasole Report and LCARA investigations, an absorption period of 3 to 10 years has been identified for sale of homes in Sub-Areas 4 and 5 and along 93rd Street. This will prevent any undue disruption of the Niagara Falls Real Estate Market in terms of average sales prices and time on the market

3. *The Committee prefers that homes should be sold for owner occupation only. Current renters should be allowed to stay.*

   LCARA Action: In a Board of Director's Resolution dated December 6, 1989, LCARA resolved that sale of homes will be "only to owner occupants." Current renters will be able to remain in the EDA since LCARA has developed an incentive program for relocation of renters from the non-habitable areas to the habitable areas.

4. *All potential residents of the area must be notified of the history of the neighborhood's proximity to the Love Canal Site, and of the Love Canal Habitability Study and Decision. This notice should accompany all future transactions and afford potential residents the opportunity for an informed choice.*

   LCARA Action: The LCARA has agreed with the New York State Department of Law's contention that some sort of disclosure requirement be developed and provided to all prospective homebuyers in the Love Canal EDA.

5. *Senior citizen housing should be a priority for the areas west of the canal itself, where the former Griffin Manor housing development once stood. The Committee favors senior citizen housing because of a perceived need in the Niagara Falls Area and the success of the existing Garden Complex.*

   LCARA Action: The LCARA has supported retention and rehabilitation of the existing senior housing complex. However, the complex is presently owned by the Niagara Falls Housing Authority. LCARA is pursuing purchase of the property from the NFHA. Until LCARA is able to purchase the Housing Authority complex is not an issue LCARA is able

to actively pursue.

6. *Where there is a need, remaing homeowners should be assisted with grants or low interest loans, etc. to upgrade the condition of their homes. This would allow improvements to be made throughout the revitalized EDA, regardless of whether the property is owned by LCARA or a private individual, and will, in turn, enhance the value of the whole neighborhood.*

   LCARA Action: LCARA has stated that it is attempting to secure funding to allow current residents to fix up their homes. LCARA has stated that "Regardless of the type of funding and the speed with which LCARA is able to come up with some funding, current residents have the same rights as anyone else in Niagara Falls to fix up their properties and make whatever improvements they like.

III. RECOMMENDATIONS FOR NON-HABITABLE AREAS (EDA AREAS 1 - 3)

The majority of the Committee recommended the following for the EDA areas declared to be not habitable by the Commissioner of Health:

1. *Recognizing economic limitations, nonetheless, every effort should be made to remediate areas 2 and 3 to a level of habitability comparable to areas 4 - 7. This will enable areas 2 and 3 to be developed for residential use.*

   NYSDEC Action: The New York State Department of Environmental Conservation has stated that it is commited to remediating Sub-Areas 2 and 3. Further soil sampling has been conducted. These samples have been submitted to DOH for its analysis. When the results of the DOH's analysis is completed, the NYSDEC will then develop a remedial program for Sub-Areas 2 and 3.

   LCARA Action: LCARA has stated that due to various conditions and circumstances, Sub-Areas 2 and 3 would be more appropriately developed as a light industrial office park. The rationale for this decision is described below:

   A number of factors have influenced the LCARA Board's decision to use Sub-Areas 2 and 3 for light industrial office park uses rather than residential. These factors are included in FGEIS Appendix N and are discussed further below:

1) *The Land Use Advisory Committee's recommendation was for residential use "recognizing economic limitations."*

6) *The cost of remediation will exceed the present value of the homes in 2 and 3.*

The NYSDEC has stated that it is committed to remediation of Sub-Areas 2 and 3 for residential purposes. The measures to achieve remediation and the extent of remediation are yet to be defined, contingent upon DOH's assessment of the soil samples provided by DEC. Economic limitations to remediation cannot, therefore be assessed until the parameters of remediation have been identified.

However, based upon the decisions made and remedial actions taken regarding Sub-Areas 2 and 3, this area could become very unattractive for residential rehabilitation and be more suitable for new light industrial/office park uses.

Furthermore, based upon the LCARA valuation and condition rating charts provided in FGEIS Appendix N, the present value of the homes in Sub-Areas 2 and 3 (154 units) is approximately $1.5 million. The cost of remediating Sub-Areas 2 and 3 could possibly exceed this number depending upon the type and level of remediation proposed, thereby, rendering residential rehabilitation not cost-effective, an economic limitation.

2) *The homes in Areas 2 and 3 are, as a group, older and smaller than homes in the habitable areas.*

4) *The majority of homes in the EDA are starter homes. This market will be saturated for a number of years as LCARA feeds homes in the habitable area into the real estate market.*

The Girasole Report examined the homes in Sub-Areas 4 and 5 and along 93rd Street. The majority of these homes have been classified as ranch style (206) and are considered starter homes. An absorption period of 3 to 10 years has been identified as an appropriate length of time for selling these homes without adversely impacting the surrounding real estate market.

Homes in Sub-Areas 2 and 3 will remain vacant for the length of the absorption period for homes in Sub-Areas 4 and 5, thereby deteriorating to an even worse condition than at present.

3) *Homes in Areas 2 and 3 have not been maintained in recent years and are significantly more deteriorated than homes in Areas 4 and 5.*

5) *Marketing of homes in 2 and 3 must await remediation, and will continue to deteriorate while this process continues.*

The rehabilitation specialist at LCARA developed a series of condition rating criteria which were used to judge the condition of the homes in Sub-Areas 2 and 3 and 4 and 5. These criteria are provided in FGEIS Appendix N.

Based upon these criteria, the homes in Sub-Areas 2 and 3 have an average condition rating of 3 (poor condition), while the homes in Sub-Areas 4 and 5 have an average rating of 8 (very good condition).

Since sale of homes in Sub-Areas 2 and 3 must await completion of remedial activities by DEC, these units will deteriorate even further and be in much worse condition than they are presently.

7) *It will be difficult to overcome the stigma of Love Canal for homes in the habitable areas. To market the homes in a non-habitable area will be nearly impossible, even if remediation will be undertaken.*

LCARA feels that efforts to revitalized the Love Canal non-habitable areas for residential use, even after completion of remedial activities, will be much more difficult due to the psychological effect of the area once being labled as non-habitable.

8) *There is a strong demand for quality "industrial park" type land in the Niagara Falls area due to the Free Trade Agreement and other factors.*

The amount of land currently available for commercial/industrial development in the Niagara Falls Region is quickly being absorbed, especially in the area surrounding the Love Canal EDA (the Town of Wheatfield, Williams Road Corridor). The Summit Development Corporation is planning an expansion of the Summit Park Mall. In addition, the sale of 171 acres of land to Canadian Developers in the Summit Industrial Park greatly reduced the amount of vacant commercially/industrially zoned land available for development. Purchase of such a significant amount of land is indicative of current trends in the Niagra Falls Region.

Furthermore, building permit issuances for commercial and industrial activities in relation to residential permit issuances substantiates that a demand for industrial land is prevelant in both the City of Niagara Falls and the Town of Wheatfield.

2. *If cost prohibits the total remediation required for residential resettlement, areas 2 and 3 should be developed for light industrial use. In light of he proximity to residential areas, certain appropriate remediation must be carried out under this option. This will provide an opportunity for the City of Niagara Falls and the Town of Wheatfield to benefit from the Free Trade Agreement. Any industrial development of this area should be planned and consider the needs of existing residents.*

   LCARA Action: For reasons stated in #1 above, Sub-Areas 2 and 3 have been identified for light industrial office park development. LCARA has developed a phasing plan for Sub-Areas 2 and 3 which will ensure adequate buffer between remaining residents and new light industrial uses. The phasing plan envisions light industrial development progressing from the north to the southern boundary of the EDA.

   The Board of Directors of LCARA is also on record as saying that the Agency is not going to force anyone out of their homes. The Agency is commited to do all it can to make living in the EDA as comfortable as possible for the existing residents for the duration of time they choose to remain in the EDA.

3. *Under either of these conditions, current residents: should have the right to remain in areas 2 and 3 if they choose; should be eligible for low income loans or grants to rehabilitate their properties; should be given an opportunity to bid on homes in area 4 - 7, if they wish to relocate; and should receive a selling price for their homes comparable to the value of similiar homes in any other area of the City of Niagara Falls and Town of Wheatfield.*

   LCARA Action: Refer to #2 above for information regarding LCARA's commitment to not force existing residents out of their homes. Refer to Section II, #6 for more information regarding LCARA's attmepts to secure funding for improvements to existing residents' homes. The last point raised by the LUAC cannot be satisfied by LCARA since the Agency is bound to purchase homes from existing residents market value for their homes and thereby, satisfy the LUAC

recommendation.

4. *Basic services such as water, sewage, street lights, roads, etc. should be maintained and upgraded to current standards in areas 2 and 3 where people continue to reside.*

   Municipal Action: The City of Niagara Falls and Town of Wheatfield presently provide the above identified services to the EDA.

5. *Area 1 should not be remediated or developed for residential use. Other uses should be considered. Residents and businesses in Area 1 should have the same rights as current residents in Areas 2 and 3, as listed in #3 above.*

   LCARA Action: The Love Canal Area Master Plan does not envision residential use in Sub-Area 1. The area has been identified as a gateway and will be landscaped to create an aesthetically pleasing entrance to the City of Niagara Falls. A remedial plan has been developed by Occidental Chemical Corporation which encompasses Sub-Area 1 and is under review by NYSDEC.

Current Master Planning Activities

The habitability decision provided by Dr. Axelrod *and the appointment of the Land Use Advisory Committee* has prompted present Master Planning and EIS activities. "For those areas declared habitable, revitalization/resettlement programs must await development and approval of an overall land use plan" (Decision on Habitability, September 1988). Furthermore, the land use plan must be submitted to the US Environmental Protection Agency (USEPA) and must be approved by the Chairman of the New York State Disaster Preparedness Commission (DPC).

The Saratoga Associates was retained by the LCARA to prepare a master plan in response to the findings presented by the NYSDOH in its habitability decision and the area's environmental, social and physical settings. As a result of the master planning process, a Preferred Development Alternative was developed. This Final Generic Environmental Impact Statement (FGEIS) examines the merits of the Preferred Land Use Plan for the Love Canal EDA and its acceptance by the LCARA for implementation.

2.3 Description of the Preferred Alternative

The Preferred Alternative chosen to guide development at the Love Canal EDA envisions a mix of uses comprised of commercial, office

park/light assembly and residential. Complementing these uses will be areas dedicated to park land. The Preferred Alternative is graphically depicted in Figure 14: PREFERRED LAND USE DIAGRAM.

Relevant factors impacting present and possible land uses in the Love Canal EDA and adjacent areas have been examined for each sub-area within the Love Canal EDA. These factors are summarized below for each sub-area as well as the resultant development option based upon these factors.

Containment Area

The Containment Area is the location of the Love Canal landfill where contaminants have been successfully contained. It was also the location of the former Ring I and II homes which were demolished to create an adequate buffer around the canal area.

The containment area is presently enclosed with an 8 foot high chain link fence. No future development has been identified for the containment area. It will remain as a fenced greenspace area.

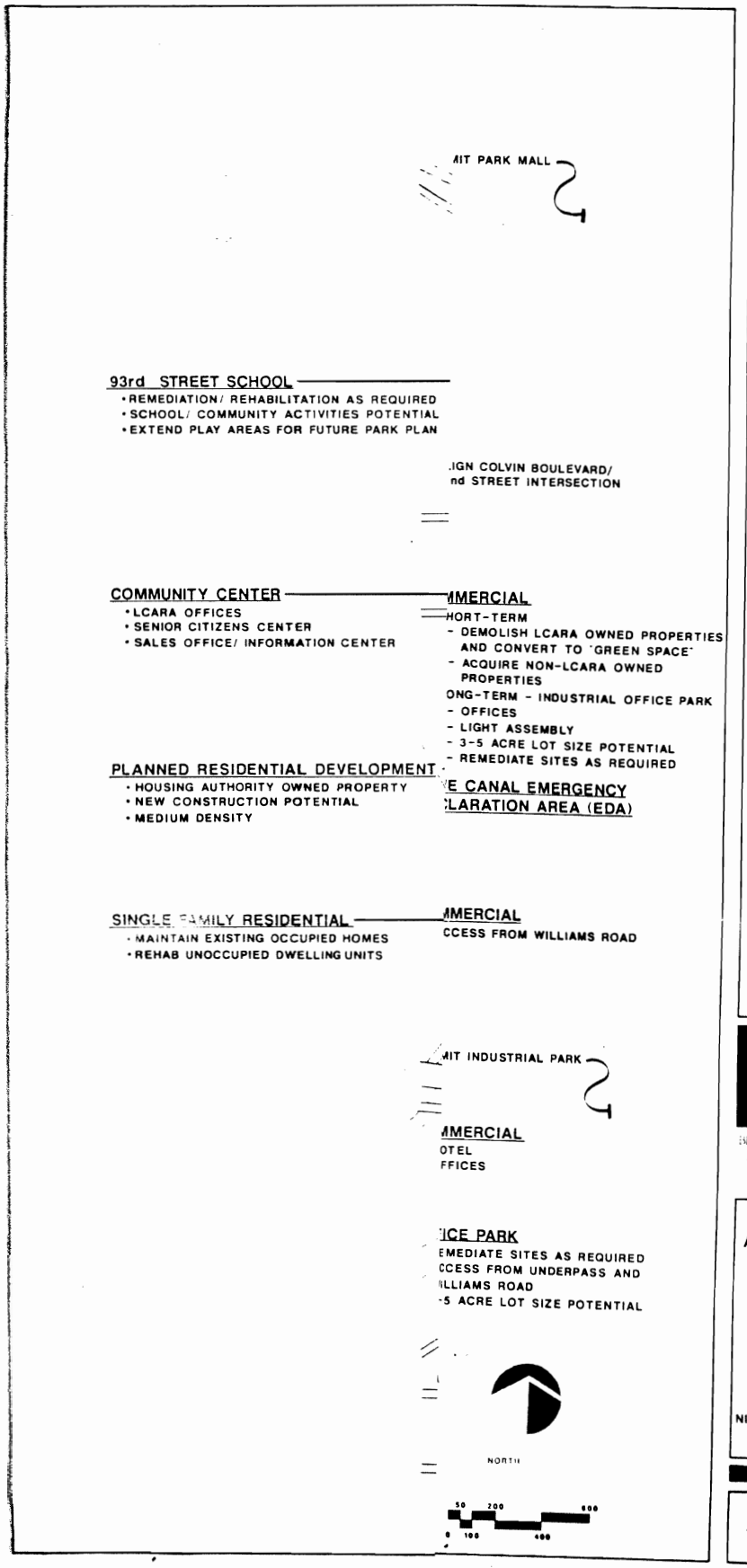
Sub-Area 1

Sub-area 1 is isolated from the rest of the Love Canal EDA and is located along Buffalo Avenue, a major road leading into the City of Niagara Falls, adjacent to the Niagara River. Many riverfront communities are attempting to upgrade the appearance of shoreline roads in order to enhance tourism and increase the pride which local residents feel for their city. Sub-area 1 will provide an opportunity to fulfill this goal. Furthermore, the intersection of 102nd Street and Buffalo Avenue is a major access point for the Love Canal EDA and could, if improved, provide a positive first impression for the entire area.

Because of the above, Sub-area 1 *has* not *been identified* for development. Funding should be sought to remove existing structures and to improve and enhance the appearance of the area with landscaping and other amenities as soon as possible.

Sub-Areas 2 and 3

The housing structures located in sub-areas 2 and 3 have been vacant for up to 11 years and evidence significant deterioration. *LCARA has conducted a condition/valuation survey for all properties in Sub-Areas 2 and 3. The units located in Areas 2 and 3 have an average condition rating of 3 (poor condition). A condition rating of 3 denotes that the unit requires gut rehabilitation with no major components presently usable. Typical repairs are*



LEGEND

- REMAINING RESIDENTS, OWNED BY OTHERS
- LCARA OWNED
- VEGETATIVE/ VISUAL BUFFER
- VEHICULAR ACCESS
- SINGLE FAMILY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- COMMUNITY CENTER
- PARK/OPEN SPACE
- COMMERCIAL

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LOVE CANAL AREA RESETTLEMENT STUDY

PREFERRED LAND USE DIAGRAM

NIAGARA FALLS, NEW YORK

FIGURE 14

approximately $40,000. Refer to FGEIS Appendix N for further information regarding the condition and valuation survey.

Infrastructure in the area is not well suited to the needs of the present housing market and would severely limit buyer interest in new houses. The market for housing of this type located in the habitable and non-habitable areas is presently limited. Adverse impacts to the real estate market would occur if large numbers of these homes were placed on the market at once. Due to this reality, demolition of these homes is perceived as the most feasible alternative and rehabilitation efforts are to be concentrated in the habitable area north of Colvin Boulevard.

Construction of new housing in Sub-areas 2 and 3 could not occur until additional study is done, remediation completed and funding for new housing obtained. Past experience has shown that this process can be lengthy.

As a consequence of the above, Sub-Areas 2 and 3 are proposed for commercial, industrial and office park development. It is recommended that the Town of Wheatfield pursue the same type of development in the adjacent areas extending east to Williams Road. *Since demolition of housing units in Sub-Areas 2 and 3 is proposed, existing property owners will be given preferential treatment in resettling the targeted EDA in Sub-Areas 4 and 5 in order to prevent undue social disruption.*

LCARA has developed a land use plan which proposes light industrial/office park uses for Sub-Areas 2 and 3. Development of this type will require phasing since there are residents remaining in Sub-Areas 2 and 3. Analysis of existing patterns of settlement in this area show that the greatest number of remaining residents are located in the southern part of this area with smaller numbers in the north. It is logical therefore, to assume that a phased development plan would start in the north near Colvin Boulevard and proceed in a southerly direction. Refer to FGEIS Section 2.5, Phasing Plan for more information regarding the phasing of development in Sub-Areas 2 and 3.

A state and federaly protected wetland exists between 102nd Street and Williams Road south of Colvin Boulevard. The Class II wetland will be preserved and protected under the Preferred Alternative. All applicable NYSDEC wetland regulations as promulgated in 6 NYCRR Parts 663 and 664 will be adhered to.

Neighborhood oriented commercial activities would be concentrated adjacent to the Colvin Boulevard corridor *located in Sub-Area 3* (e.g., laundromats, dry cleaners, convenience stores).

Sub-Areas 4 and 5

The housing structures located in Sub-areas 4 and 5 are in generally good condition. Measures have been taken to preserve the housing in the area including the installation of new roofs on over 50 houses. Some of the housing units have been vacant for only a few months and some for almost 11 years.

The area exhibits a wide variety of housing types but the majority are ranch types with about 1000 square feet of living space. This type of house will appeal to purchasers of moderate means, perhaps a family seeking a first home.

The infrastructure of the area is generally good and is in keeping with modern standards. As a result, new residents will be provided with a quality living environment.

The homes located in this area could be absorbed into the area real estate market at a rate of 50 to 70 units per year without adversely impacting the market in terms of sales prices and length of time on the market.

An investigation into the existence of BHC's on nine properties in Sub-Area 4 is underway. No significant findings are anticipated by the NYSDEC. If remediation is required, nine properties may be impacted by such activity. These properties will not be sold until testing/remediation decisions are complete. No other limitations to rehabitation of Sub-Area 4 are anticipated.

Finally, the remediation of Black and Bergholtz Creeks is *completed and will not* impact the sale and occupancy of the housing units located in Sub-areas 4 and 5.

As a result of the above factors, Sub-areas 4 and 5 have been designated as Single Family Residential land use areas. Funds will be sought to assist remaining homeowners to undertake repairs and improvements which have been deferred as a result of the Love Canal emergency. The LCARA will pursue funding to repair and improve the homes which it owns (202 parcels of land containing 194 houses) to ensure that they are suitable for present market conditions. Overall neighborhood upgrading is proposed.

Sub-Areas 6 and 7

The major landowner of Sub-areas 6 and 7 is the City of Niagara Falls Municipal Housing Authority (NFMHA). Approximately 250 units of low-income housing were recently demolished, leaving most of the area in a green field condition. Fifty-four units of Senior Citizen Housing remain, but are in need of major renovations.

The LCARA also has land holdings in Sub-Areas 6 and 7, specifically, 50 homes along the western side of 93rd Street. These homes are similiar in character to those just to the west of the Love Canal EDA along 92nd and 91st Streets. The inventory of housing held by LCARA contains, for the most part, homes which would meet the need for moderate income housing presently existing in the Niagara Falls housing market.

Because of the residential history of the area, Sub-areas 6 and 7 are well suited for residential use and could be developed with site amenities attractive to more upscale home buyers. *In a LCARA Board resolution the Board of Directors instructed the Executive Director of the Agency to enter into discussions/negotiations with the NFHA for the acquisition of the property presently owned by the NFHA. If acquisition does not occur, LCARA and the NFHA will ensure that development of the property is compatible with the Love Canal Area Master Plan.*

As a result of the above stated factors, a major portion of Sub-areas 6 and 7 will be reserved for a Planned Unit Residential (PRD) which is compatible with existing zoning regulations. Development focus shall be placed upon the provision of middle income, medium density residential uses with single family use along the eastern side of 93rd Street. Adequate landscaping and space shall be provided to buffer development of this area from the Love Canal Containment Area. The homes along 93rd Street shall be improved to match the character of the homes along 92nd and 91st Streets.

The present community center activities located adjacent to Colvin Boulevard will be maintained. Activities presently located in the Community Center complex include the LCARA offices and the Senior Citizens Center. A sales office and information center will also be located in the complex when rehabitation activities begin.

Also proposed for development in the Love Canal EDA are areas of park land. Park land is proposed at the 93rd Street School site and within the property presently owned by the NFHA (Sub-Areas 6 and 7). Final layout and design is to be developed at a later date.

Summary

Activities proposed for the Love Canal EDA are in conformance with development trends in the area outside of the EDA boundary. The proposed residential development in Sub-areas 4, 5, 6 and 7 is suitable with the surrounding residential uses to the north and west of the EDA. The commercial uses proposed in Sub-areas 2 and 3 are compatible with the commercial, industrial and office activities along Williams Road.

Implementation of the Preferred Alternative will in part be dependent upon factors beyond the control of the project sponsor. Sub-areas 6 and 7 are presently owned by the City of Niagara Falls Housing Authority, LCARA and some private concerns. The City of Niagara Falls City School District presently owns the 93rd Street School property. Any development proposed in the Preferred Alternative will be contingent upon owner approval. LCARA may pursue opportunities to purchase each of these parcels.

2.4 Criteria and Thresholds for Development

6 NYCRR Section 617.15 (b) states that "Generic EIS's and their findings should set forth specific conditions or crtiteria under which future actions will be undertaken or approved,..." The FGEIS was prepared pursuant to these regulations.

A generic EIS was selected as the appropriate type of impact statement because its broad scope aids in the analysis of the very distinct alternative development plans for the Love Canal EDA. According to SEQR, a Generic EIS may be used...to assess the environmental effects of ... an entire program or plan having wide application or restricting the range of future alternative policies or projects."

Under SEQR, Generic EIS's are broader and more general than site or project specific EIS's and should discuss the logic and rationale for the choices advanced. "They may identify the important elements of the natural resource base as well as the existing and projected man-made features, patterns and character... They may present and analyze a few hypothetical scenarios that could and are likely to occur" (6 NYCRR 617.15 (d)).

The FGEIS sets forth the criteria and thresholds under which future actions will be undertaken or approved. The areas in which site-specific data are to be developed and incorporated into plans are established herein. The implementation of the Preferred Alternative must be undertaken within the thresholds and criteria defined follows:

Thresholds to Development

The Love Canal Area Master Plan identifies various design parameters for the Preferred Alternative which will act as thresholds to development activity at the Love Canal EDA. An environmental assessment will be conducted to determine whether the proposal is within the parameters identified in the FGEIS. If any future development proposal set forth for the Love Canal EDA is consistent with these thresholds, a site-specific EIS will not be required. If, however, development activity exceeds these

thresholds, or imposes different environmental impacts, a site-specific EIS will be required for those topics and other cumulative or associated impacts.

A range of thresholds have been developed and include water and sewer capacity, traffic generation, residential population creation, employee creation, tax revenues generated and number of school children created. The thresholds identified herein for these factors represent the maximum potential development to occur as a result of the implementation of the Love Canal Area Master Plan. Development cannot exceed these thresholds without further site specific EIS procedures as noted above. Component uses to be developed at Love Canal and the thresholds identified with each use are further described in the following paragraphs.

The Preferred Alternative encompasses a variety of uses such as parkland, single family residential, medium density residential, office development, commercial development, light industrial development and containment area. Each is further described below:

Park Use

The Preferred Alternative will create a need for a 25 to 500 person average park usage on 30 acres of land at the EDA. Zero to 10 parking spaces is anticipated at the 93rd Street School site and 100 +/- additional parking spaces in the area defined as Sub-Areas 6 and 7 in the Habitability Decision. The Preferred Alternative will generate no more than 1,080 weekday trips, 630 trips in the AM Peak Hour, and 210 during the PM Peak Hour, 1,875 vehicle trips on Saturday, 1,475 trips on Sunday, 183 trips during the Saturday Peak hour and 215 during the Sunday Peak Hour. Water and sewer usage will be 25 - 2500 gallons per day and 106 - 2125 gallons per day, respectively. No tax revenues will be generated nor will there be any direct creation of school children due to park development at the EDA.

Single Family Residential

Single family residential development at the Love Canal EDA will create approximately 875 new residents within 75 acres of land. One parking space per dwelling unit is required as per the City of Niagara Falls Zoning Ordinance. Traffic will be generated. It is anticipated that the maximum traffic generation will be 2,616, 191, 263, 2,639, 2,271, 248 and 245 vehicular trips during the weekday, AM Peak Hour, PM Peak Hour, Saturday, Sunday, Saturday Peak Hour and Sunday Peak Hour, respectively. Water and sewer usage will be no more than 95,000 gpd and 81,000 gpd, respectively. Tax revenues anticipated to accrue to the City of Niagara Falls could total approximately $460,000. Lastly, a total of 219 new students could

be generated from the single family residential component at the Love Canal EDA.

Meduium Density Residential

A total of 1,782 persons is anticipated to be generated at the Love Canal EDA due to medium density residential development at the Love Canal EDA in Sub-Areas 6 and 7 within 75 acres of land. The number of parking spaces required is 1 per dwelling unit as per the City of Niagara Falls Zoning Ordinance. No medium density development is envisioned in the portion of the EDA located in the Town of Wheatfield. No more than 6,137, 481, 597, 5,300, 4,195, 458 and 363 vehicular trips will be generated during the weekday, AM Peak Hour, PM Peak Hour, Saturday, Sunday, Saturday Peak Hour and Sunday Peak Hour, respectively. Water and sewer usage is anticipated to be no more than 247,000 gpd and 210,000 gpd, repsectively. Tax revenues anticipated to accrue to the City of Niagara Falls totals approximately $773,000. None will accrue to the Town of Wheatfield since no medium density residential development is planned in the portion of the EDA located within the Town. It is anticipated that approximately 218 new students could be generated from the medium density residential component.

Office Development

Office development is planned for EDA Sub-Areas 2 and 3 as defined by the Decision on Habitability. Office development at the Love Canal will create no more than 1,000 new employees. 355,000 square feet of building space will be developed and will be accompanied by no more than 2,300 parking spaces. It is expected that no more than 7,610, 596, 741, 6,573, 5,202, 568, 450 and 312 vehicular trips will be generated during the Weekday, AM Peak, PM Peak, Saturday, Sunday, Saturday Peak and Sunday Peak, respectively. Water and sewer usage is anticipated to be 15,000 gpd and 13,000 gpd, respectively. Tax revenues will accrue to both the City of Niagara Falls and The Town of Wheatfield. Expected tax revenues could total approximately $119,000 in land taxes and approximately $211,000 in building tax for the Town of Wheatfield and approximately $13,000 in land taxes and approximately $239,000 in building tax for the City of Niagara Falls. No student population will be added as a result of office development at the Love Canal EDA.

Commercial Development

Commercial development is proposed for Sub-Areas 2 and 3. No more than 155 employees could be created. Building square footage could equal the maximum potential of 250,000 sq. ft. with an accompanying

1,695 parking spaces. It is anticipated that no more than 603, 208, 90, 154, 100, 16 and 9 vehicular trips could be created during the Weekday, AM Peak, PM Peak, Weekend, Saturday, Sunday, Saturday Peak and Sunday Peak, respectively. Water and sewer usage is anticipated to be approximately 2,325 gpd and 1,976 gpd, respectively. Tax revenues are expected to be generated for both the City and Town. Land taxes could total approximately $6,940 and $11,817 for the Town and City, respectively. Building taxes could total approximately approximately $100,000 and $171,000 for the Town and City, respectively. No new students will be added to each respective municipality's school districts as a result of commercial development at the Love Canal EDA.

Light Industrial Development

Light industrial development is planned for Sub-Areas 2 and 3,. as defined by the Decision on Habitability. No more than 1,200 employees will be created. No more than 760,000 sq. ft. of building space is anticipated to be accompanied by approximately 2,541 parking spaces. It is anticipated that approximately 4,159, 526, 551, 1,418, 348, 167 and 35 vehicular trips could be generated during the Weekday, AM Peak, PM Peak, Weekend, Saturday, Sunday, Saturday Peak and Sunday Peak, respectively. Water and sewer usage could total approximately 30,500 gpd and 25,000 gpd, respectively. Tax revenues will only accrue to the City of Niagara Falls since no light industrial development is planned in the portion of the EDA within the Town of Wheatfield. Land taxes to accrue to the City are expected to be approximately $35,000 and building taxes could total approximately $1,540,000. No school children will be added to either municipality's school district as a result of the light industrial component.

Containment Area

The containment area will be present in the Preferred Alternative. No development is planned for the 65 acre fenced containment area. The leachate treatment plant is within the containment area and is approximately 3,700 square feet with a parking space capacity of 10 spaces. No more than 80 vehicular trips per day during the construction season will occur with approximately 10 to 20 per day during the winter. Water usage on a typical process day totals 4,200 gpd and 300 gpd during a normal working day. Sewer discharges on a typical process day totals no more than 45,000 gpd. However, the NYSDEC's discharge permit allows up to 100,000 gpd. Tax revenue generation and number of school children do not apply.

All Uses

Overall, the Preferred Alternative will produce up to the maximum development threshold of approximately 2600 residents at the Love Canal, about equal with the previous residential levels and could create approximately 2400 new jobs. Approximately 22,205, 2,632, 2,494, 18, 334, 13,886, 1,676 and 1,360 vehicular trips could be generated during the Weekday, AM Peak, PM Peak, Weekend, Saturday, Sunday, Saturday Peak and Sunday Peak, respectively. Water and sewer usage could total approximately 390,000 gpd and 332,000 gpd, respectively. Tax revenues will accrue to both the Town of Wheatfield and the City of Niagara Falls. It is anticipated that approximately $437,000 and $3,250,000 will accrue to the Town and City, respectively. The Preferred Alternative could add approximately 437 new students to the City of Niagara Falls City School District. No new student increase is anticipated for the Town of Wheatfield since no new residential development is planned for the portion of the EDA located in the Town of Wheatfield.

Activities proposed for the Love Canal EDA are in conformance with development trends in the area outside the EDA. The proposed residential development in Sub-Areas 4, 5, 6 and 7 is suitable with the surrounding residential uses to the north and west of the EDA. The commercial uses proposed in Sub-Areas 2 and 3 are compatible with the commercial, industrial and office activities along Williams Road.

<u>Conditions and Criteria to Guide Development at the EDA</u>

In order for the above cited activities to occur, specific conditions or criteria under which future actions will be undertaken or approved at the Love Canal EDA must be identified. The conditions or criteria identified below assume that the only changes in scope of development will be in terms of technical and/or engineering activities. The conditions or criteria under which development activities will be undertaken or approved are provided below by Sub-Area as defined by the New York State Department of Health's Decision on Habitability:

<u>General Criteria/Conditions</u>

The following will be required of all properties located in the EDA:

1) *LCARA adoption of the Love Canal Area Master Plan based upon SEQR Findings.*

2) *Disaster Preparedness Commission review of Love Canal Area Master Plan based upon SEQR findings.*

3) *Lifting of the New York State Supreme Court Injunction which prevents the sale of properties by LCARA.*

4) *Where applicable, legal mechanisms, easements, property encumbrances are established by NYSDEC and agreed to by LCARA for undertaking removal, maintenance and monitoring of the 100 former EPA test wells located throughout the EDA.*

5) *Where applicable, conduct historic review of structures scheduled for demolition which are 50 years and older.*

Sub-Area Criteria/Conditions

Sub-Area 1

Sub-Area 1 has been identified as a gateway to the City of Niagara Falls. Landscaping and other amenities will be added to improve the area's general aesthetic appearance.

The above identified activities can proceed upon approval and completion of the remedial plan set forth by Occidental Chemical Corporation which includes Sub-Area 1. It is presently being reviewed by NYSDEC.

Subsequent to remediation, a landscaping plan and maintenance plan must be developed before any placement of aesthetic improvements occurs. Also, a budget and funding source must be identified.

Sub-Areas 2 and 3

Sub-Areas 2 and 3 have been identified for development of light industrial office park uses. Before these activities proceed, a number of events will need to occur first. These include the following:

1) *Coordinate and confirm the remediation of Sub-Areas 2 and 3 by the NYSDEC. The Decision on Habitability has stated that Sub-Areas 2 and 3 are not suitable for residential use without further remediation. The Commissioner of Health has stated that Sub-Areas 2 and 3 are suitable for commercial and light industrial activity without further remediation.*

   In news releases dated September 12, 1989 and April 19, 1990, the NYSDEC has agreed to remediate Sub-Areas 2 and 3 in order to make this portion of the EDA suitable for residential use. The extent of remediation has not been identified as of this date. Soil sampling was completed by the NYSDEC in December

1989. The samples are presently being tested by the NYSDOH. Upon completion of testing, a remediation plan will be developed by NYSDEC.

If Sub-Areas 2 and 3 are remediated, this could cause the New York State Department of Health to re-evaluate the Habitability Decision. An upgrade in the type of uses is possible. A formal review and findings process by the Technical Review Committee and Disaster Preparedness Commission would be required to upgrade the habitability decision. NYSDEC has stated that there are no limitations to developing/resettling the EDA (Zones 4, 5, 6 and 7) resulting from the remedial activities in EDA Sub-Areas 2 and 3.

2) *A zoning change from residential to commercial is a Type I action under SEQR. Both the Town of Wheatfield and City of Niagara Falls would have to undertake a rezoning action. A market study is recommended to confirm/identify a specific development program for the site.*

3) *Identification of a preferred site plan proposal for the area and adoption by the LCARA Board of Directors.*

4) *SEQR process approval for the Preferred Site Plan proposal. An environmental assessment must be conducted to determine if the proposed action is in conformance with the parameters and thresholds identified in the FGEIS. Site specific review of significant animal species will be conducted.*

5) *Other applicable local and state reviews and/or approvals will be sought, as required, inclusive of but not necessarily limited to the following permits and approvals:*

Department of Transportation: Curb cuts
City of Niagara Falls: Water and sewer extensions and site plan review
New York State Department of Environmental Conservation: Wetland permit (if necessary)
United States Army Corps of Engineers: Wetland permit (if necessary)

Sub-Areas 4 and 5

Sub-Areas 4 and 5 have been designated as single family residential land use areas. 194 housing units will be rehabilitated and sold to interested buyers by LCARA. Activities to be undertaken before units can be sold include the following:

1) *Lifting of the New York State Supreme Court Injunction which enjoins LCARA from selling houses in the EDA. Upon its being*

BLACK CREEK VILLAGE
SINGLE FAMILY RESIDENTIAL (62± ACRES)
RETAIN SINGLE FAMILY RESIDENTIAL NEIGHBORHOOD
- MAINTAIN EXISTING UNOCCUPIED HOMES
- REHABILITATE UNOCCUPIED HOMES
- UPGRADE OVERALL NEIGHBORHOOD

93rd STREET SCHOOL (20± ACRES)
- REMEDIATION/ REHABILITATION AS REQUIRED
- SCHOOL/ COMMUNITY ACTIVITIES POTENTIAL
- EXTEND PLAY AREAS FOR FUTURE PARK PLAN

COMMUNITY CENTER (6± ACRES)
- LCARA OFFICES
- SENIOR CITIZENS CENTER
- SALES OFFICE/ INFORMATION CENTER

PLANNED RESIDENTIAL DEVELOPMENT (72± ACRES)
- HOUSING AUTHORITY OWNED PROPERTY
- NEW CONSTRUCTION POTENTIAL
- MEDIUM DENSITY

SINGLE FAMILY RESIDENTIAL (13± ACRES)
- MAINTAIN EXISTING OCCUPIED HOMES
- REHAB UNOCCUPIED DWELLING UNITS

SINGLE FAMILY RESIDENTIAL

SINGLE FAMILY RESIDENTIAL

SINGLE FAMILY RESIDENTIAL

CAYUGA ISLAND

SINGLE FAMILY RESIDENTIAL

FUTURE PARKLAND

PARKLAND

PARKLAND
- W/ WATER FEATURE

LEACHATE TREATMENT FACILITY

CANAL SITE CONTAINMENT AREA

LOVE CANAL
(Source: E.C. Jordan Co.)

GRIFFON PARK (CLOSED)

GATEWAY AREA (5± ACRES)
- GREEN SPACE

102nd STREET LANDFILL (CLOSED)

COMMERCIAL/ OFFICE
- NEIGHBORHOOD SERVICES/ COMMERCIAL
- OFFICE

REALIGN COLVIN BOULEVARD/ 102nd STREET INTERSECTION

EXISTING MEDICAL CENTER

COMMERCIAL IN EDA - 112± ACRES, INCLUDING 29± ACRES OF WETLAND
- SHORT-TERM
  - DEMOLISH LCARA OWNED PROPERTIES AND CONVERT TO 'GREEN SPACE'
  - ACQUIRE NON-LCARA OWNED PROPERTIES
- LONG-TERM - INDUSTRIAL OFFICE PARK
  - OFFICES
  - LIGHT ASSEMBLY
  - 3-5 ACRE LOT SIZE POTENTIAL
  - REMEDIATE SITES AS REQUIRED

BUFFER

LOVE CANAL EMERGENCY DECLARATION AREA (EDA)

APPROXIMATE WETLAND BOUNDARY

COMMERCIAL
- ACCESS FROM WILLIAMS ROAD

SUMMIT PARK MALL

SUMMIT INDUSTRIAL PARK

COMMERCIAL
- HOTEL
- OFFICES

OFFICE PARK
- REMEDIATE SITES AS REQUIRED
- ACCESS FROM UNDERPASS AND WILLIAMS ROAD
- 3-5 ACRE LOT SIZE POTENTIAL

OLD FIREHOUSE
- OWNED BY LCARA
- ADAPTIVE REUSE - COMMERCIAL

WILLIAMS ROAD

FRONTIER AVENUE

LASALLE EXPRESSWAY

BUFFALO AVENUE

SCALE 0 100 200 400

LEGEND
- REMAINING RESIDENTS/ OWNED BY OTHERS
- LCARA OWNED
- VEGETATIVE/ VISUAL BUFFER
- VEHICULAR ACCESS
- SHORT TERM (IMMEDIATE)
- LONG TERM

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BRISTOL HLYNSKI WOLCK LU

LOVE CANAL AREA RESETTLEMENT STUDY

PHASING PLAN

NIAGARA FALLS, NEW YORK

FIGURE 15

lifted, LCARA can begin to sell houses as per recommendations identified in the Love Canal Area Master Plan.

2) *Establish sales/marketing/financing strategy for sale of housng structures.*

3) *All applicable local regulations are adhered to in regard to rehabilitation of structures (e.g., rehabilitation specialist estimates undertaken, building permits as required within all statutory requirements, LCARA enabling legislation requirements and the City of Niagara Falls Floodplain Ordinance.*

   Establish a program for rehabilitating housing units within the Love Canal EDA. This would include development of a phasing plan possibly categorized by the extent of rehabilitation required.

4) *Testing for BHC's in Sub-Area 4 is completed by the NYSDEC and appropriate remediation is undertaken, if necessary by the NYSDEC. 9 houses will be impacted if remediation activities is necessary. The impacted properties should be withheld from the active real estate market until remediation is complete.*

   No change in the habitability decision is expected unless there are significant findings contrary to current preliminary assessments. No significant findings are expected in Zone 4. The NYSDEC has indicated that no other limitations have been identified in relation to selling adjoining housing units in Sub-Are.

5) *The 97th Street Church should not be sold or developed until any necessary remediation of the site occurs. A draft feasibility study is due by late spring or early summer of 1990 and will be used to determine if an RI/FS is required.*

Sub-Areas 6 and 7

Sub-Areas 6 and 7 will be reserved for a Planned Unit Residential Development. Development focus shall be placed upon the provision of middle income, medium density residential uses with single family use along the western side of 93rd Street. Adequate landscaping shall be provided to buffer development of this area from the Love Canal Containment Area. The houses along 93rd Street shall be improved to match the character of the houses along 91st and 92nd Streets. The following actions should be undertaken:

1) *Lifting of the New York State Supreme Court Injunction which enjoins LCARA from selling houses in the EDA. Upon its being lifted, LCARA can begin to sell houses on the west side of 93rd Street as per recommendations identified in the Love Canal Area*

Master Plan.

2) *LCARA pursue negotiations for the acquisition of Sub-Area 6 and 7 from the Niagara Falls Housing Authority. In a LCARA Board Resolution, the Board instructed the Executive Director of the Agency to enter into discussions/negotiations with the NFHA for the acquisition of the property presently owned by the NFHA. If acquisition by LCARA does not occur, LCARA and the NFHA will ensure that development at the site is compatible with the accepted Love Canal Area Master Plan.*

3) *LCARA will prepare a development proposal for EDA Sub-Areas 6 and 7 to solicit developer interest. Define a specific building program with the thresholds established in the FGEIS. Evaluate absorption rates, phasing schedule and cost of development.*

4) *Any development proposal identified for Sub-Areas 6 and 7 will be considered a site specific development proposal and will require all applicable SEQR reviews. An environmental assessment will be conducted in order to determine if a proposed site-specific development program is consistent with the thresholds and criteria set forth in the FGEIS. If the activity is consistent, no further SEQR action is required. If the proposal is in excess of the thresholds and criteria, a site specific EIS may be required for the explicit threshold exceeded and other cumulative or associated impacts.*

5) *Other applicable local, state and other reviews and/or approvals will be sought, if required, inclusive of but not necessarily limited to the following permits and approvals:*

NYS Department of Transportation: Curb cuts
City of Niagara Falls: Water and sewer extensions and site plan review
NYS Department of Environmental Conservation: Wetland permit (if necessary)
United States Corps of Engineers: Wetland permit (if necessary)

93rd Street School

In correspondence, provided in FGEIS Appendix S, from Mr. William Sado, Superintendent of the Niagara Falls School District, to Mr. Michael O'Toole of the New York State Department of Conservation, the School District expresses their intent to reutilize the 93rd Street School as an educational facility will be contingent upon completion of planned remediation of the site by the NYSDEC as outlined in the Record of Decision (ROD).

The Love Canal Area Master Plan has identified the portion of the school site not to be utilized for instructional purposes as parkland/greenspace. A transfer of ownership of this portion of the property to the City of Niagara Falls could occur but is as yet unresolved and/or undecided. However, the final determination of ownership is of no consequence to other proposals set forth in the Love Canal Area Master Plan or in present and subsequent environmental reviews.

Before any of the above activities occur, the following conditions must be satisfied:

1) *Remediation of the 93rd Street School site by the NYSDEC as per the identified ROD.*

2) *Testing for and, if necessary, the removal of asbestos from the building.*

3) *Upgrading of the building to meet current codes and safety regulations.*

2.5 Phasing Plan

Since portions of the Love Canal EDA are currently owned by entities other than the project sponsor, the development of the Love Canal EDA will require a coordinated effort. Initially, Sub-areas 4 and 5 will be rehabilitated during the first round of activity, followed by Sub-areas 2 and 3. Sub-areas 2-5 are predominantly owned by the project sponsor, LCARA (with scattered private ownership of residences), and are most accessible for development activities. The 93rd Street School property and the City of Niagara Falls Municipal Housing Authority holdings will be developed during later stages (+/- 2 years).

Recognizing that there are issues which still need to be resolved in terms of future development of the Love Canal EDA, especially Sub-areas 2 and 3, a phasing plan has been established which integrates future resolution of these issues. Phasing components have been divided into both short-term (immediate) and long-term phases (+/- 2 years). The phasing plan is graphically described in Figure 15: PHASING PLAN.

2.5.1 Short-term Development Opportunities

Short-term development refers to those activities which can be initiated upon approval of the *of the Love Canal Area Master Plan as a result of compliance with 6 NYCRR Part 617.9 (c) and Part 617.9 (d) and lifting of the New York State Supreme Court Injunction presently enjoining sale of houses in the EDA.* Sections of the Love Canal EDA identified for short-term

improvement include *preparing and selling of houses in the* Black Creek Village, the area of single family residential along 93rd Street and *designing and installing* the buffer zone improvements adjacent to the fence surrounding the containment area, as well as the area surrounding and including the Community Center which houses the LCARA offices.

2.5.2 Long-term Development Components

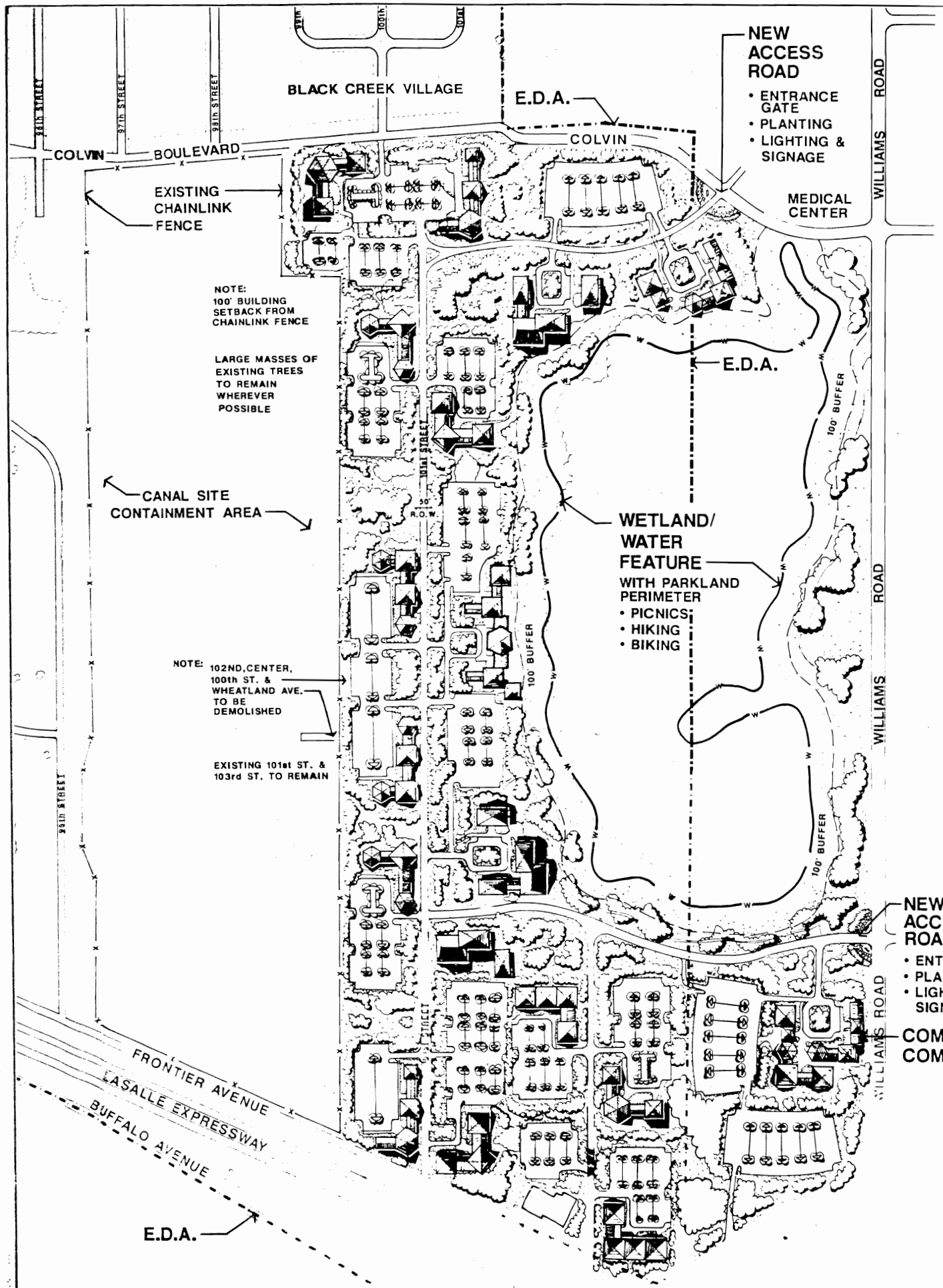
Long-term activities at the Love Canal EDA will be initiated upon completion of the appropriate environmental review. Long-term activities include development of the Niagara Falls Municipal Housing Authority property, the 93rd Street School site (*to be completed in 1991*) and Sub-areas 2 and 3 (due to occupants residing in these areas).

The LCARA has accepted a preferred land use concept which proposes industrial/commercial use for areas 2 and 3 which are located east of the Love Canal containment area. Analysis of existing patterns of settlement in this area show that the greatest number of remaining residents are located in the southern part of this area with smaller numbers in the north. It is therefore, logical to assume that a phased development plan would start in the north near Colvin Boulevard and proceed in a southerly direction.

A detailed phasing plan has been developed for Sub-Areas 2 and 3 as well as design schematics to conceptually depict how light industrial/office park uses may co-exist with existing residences. FGEIS Figure 16A: ZONES 2 AND 3 DEVELOPMENT PLAN and FGEIS Figure 16B: ZONES 2 AND 3 PHASING PLAN, visually depict these concepts.

The lot size for the light industrial office park uses proposed for Sub-Areas 2 and 3 will vary from 3 to 5 acres. Buildings will be in the range of 30,000 to 60,000 square feet, 2 story structures and maintain a 100' setback from the existing chainlink fence. Parking will accomodate 4 spaces per 1000 square feet of building space. Greenspace will encompass 30 percent of the parcel.

Phasing of light industrial office park uses will begin in the northern end of the site along Colvin Boulevard and progress south to Frontier Avenue. Three phases of development are anticipated. The objective is to fully develop each phase before proceeding to the next phase. However, if LCARA or another project sponsor (independent developer) is unable to purchase the necessary property from remaining residents for the intended development, the next subsequent phase will be pursued. Office/industrial development will be located in a



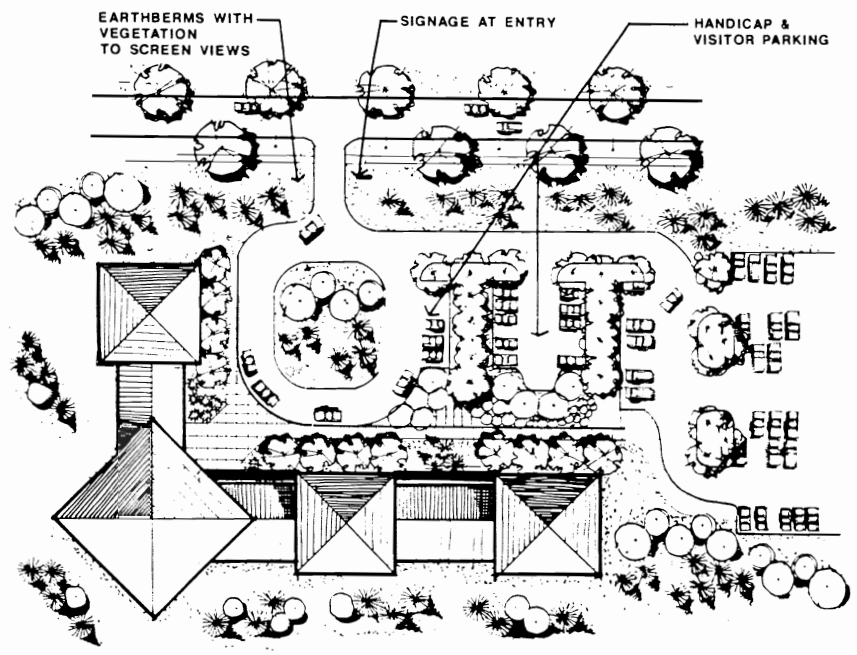
OFFICE / LIGHT INDUSTRIAL PARK DESIGN PROGRAM

LOT SIZE
- 3-5 ACRE PARCELS

BUILDINGS
- 30,000-60,000 SF
- 2 STORY
- 100' SETBACK FROM EXISTING CHAINLINK FENCE

PARKING
- 4 SPACES PER 1000 SF BUILDING SPACE

GREENSPACE
- 30% OF PARCEL



ENTRY/DROP-OFF

SCALE 1" = 60'

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LANDSCAPE ARCHITECTS, ARCHITECTS AND PLANNERS

SARATOGA SPRINGS • BUFFALO • NEW YORK CITY

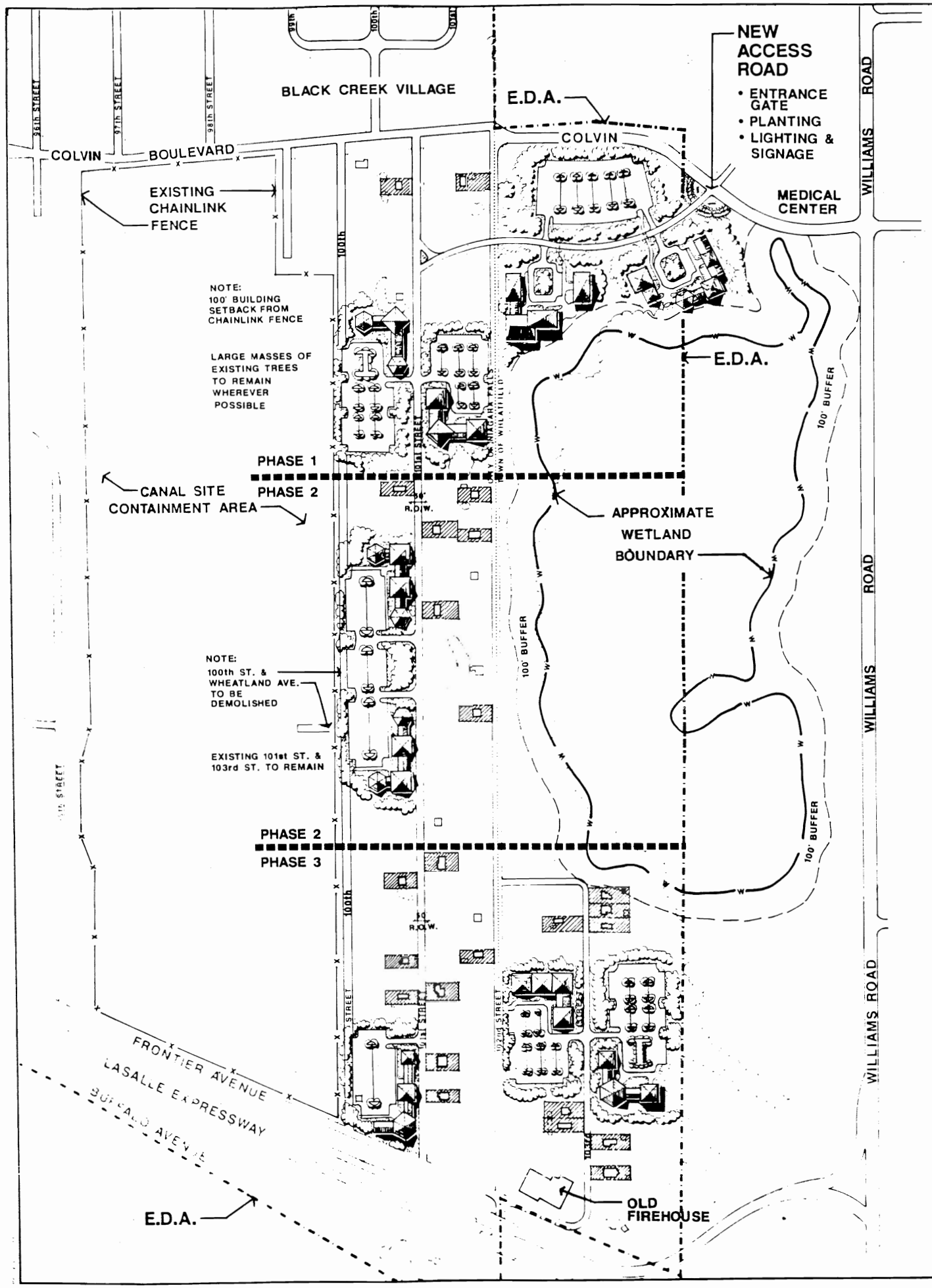
LOVE CANAL AREA RESETTLEMENT STUDY

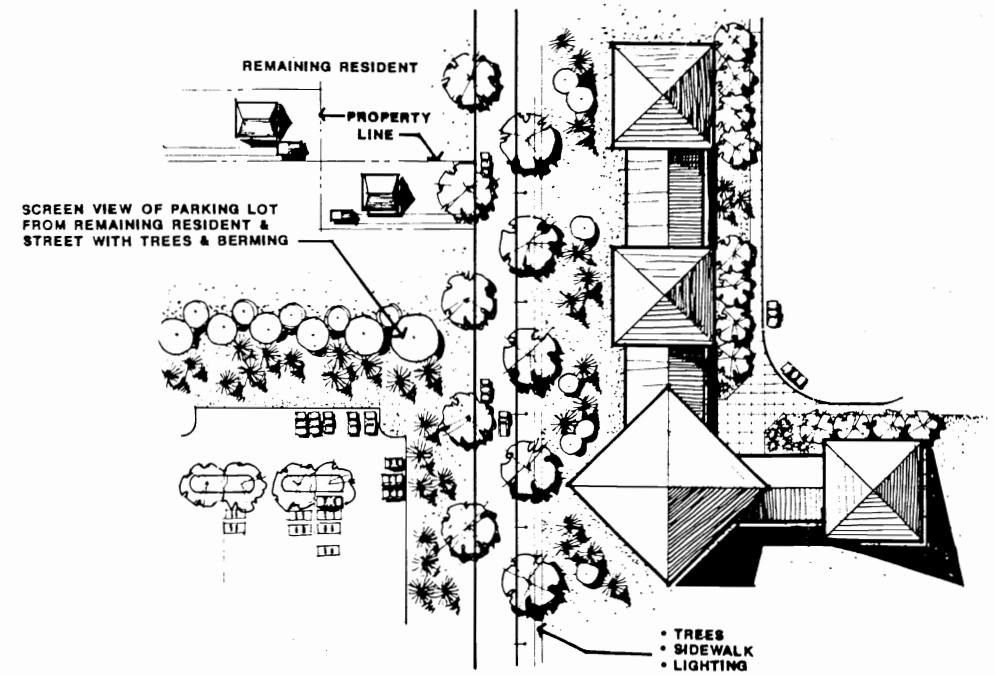
ZONES 2&3

DEVELOPMENT PLAN

Conceptual Plan For Discussion Only

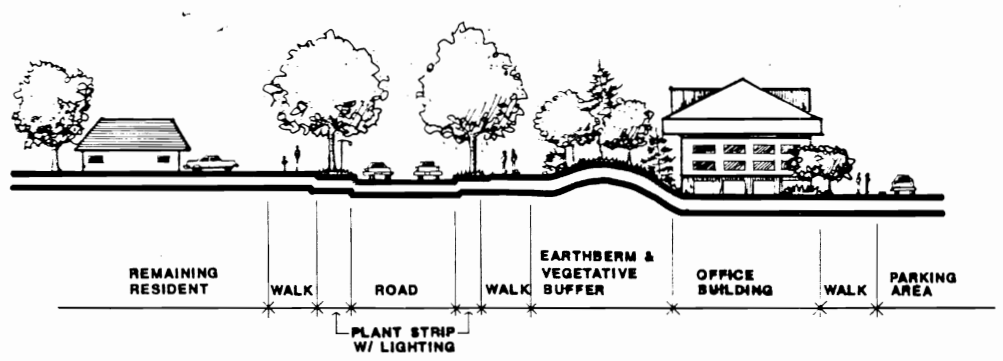
DRAWN BY	CHECKED BY
SCALE 1"=200	DWG NO.
DATE 5/22/90	
REV.	FIGURE 16A





TYPICAL BUFFERS & SCREENING

SCALE 1" = 60'



TYPICAL STREETSCAPE SECTION

NOT TO SCALE

REMAINING RESIDENTS
• OWNER OCCUPIED
• LCARA OWNED

E.D.A. – EMERGENCY DECLARATION AREA

SCALE 50 200 600 (0 100 400)

NORTH

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LANDSCAPE ARCHITECTS, ARCHITECTS AND PLANNERS

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LOVE CANAL AREA RESETTLEMENT STUDY

ZONES 2 & 3

PHASING PLAN

NIAGARA FALLS, NEW YORK

TSA PROJECT NO

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SCALE 1"=200'

DATE 5/22/90

REV

DWG NO FIGURE 16B

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coordinated manner to utilized open vacant space, thereby preserving adequate spatial buffer. Large masses of existing trees are to remain wherever possible to screen views of new industrial office uses from existing residents as well as through use of earthberms and landscaping.

2.6 Implementation Strategy

An implementation strategy is required in order to effectively develop the Love Canal EDA. A strategy has been identified encompassing both short (1-2 years) and long-term (2+ years) activities. Various administrative, physical and environmental concerns must be addressed under each time frame.

2.6.1 Short-term Implementation Measures

2.6.1.1 Administrative Action

The following identifies administrative actions to be undertaken in the short-term:

1. Complete environmental review of Preferred Master Plan Alternative.

2. LCARA adopt master plan.

3. Secure regulatory approval of master plan. *Secure lifting of the New York State Supreme Court Injunction which prevents sale of property by LCARA.*

4. Establish sales/marketing/financing strategy for early action projects. *Establish phasing plan for the sale of housing units in EDA Zones 4 and 5 and along 93rd Street.*

5. Coordinate NYSDEC sponsored Public Information Center role. *Prepare disclosure statement to inform prospective property purchasers of the history and environmental setting of the Love Canal.*

6. Establish and implement mechanism and purchase price offer for non-LCARA properties within Emergency Declaration Area Sub-areas 2 and 3. *Offer inducement package to EDA Zones 2 and 3 residents.*

7. Pursue acquisition of EDA Sub-areas 6 and 7 (Niagara Falls Housing Authority).

8. *Conduct historic review of structures 50 years and older to determine any possible historic significance.*

9. *Where applicable, secure legal mechanisms, easements, property encumbrances with NYSDEC for maintenance, removal and/or monitoring of the 100 former EPA monitoring wells.*

2.6.1.2 Physical Development

1. Confirm the scope of residential unit rehabitation and complete improvements on a phased basis. "Mothball" units scheduled for later phase sale.

2. Initiate land and building sales of Black Creek Village and 93rd Street single family residential units on a phased basis.

3. *Prepare, design and* provide landscape planting at the perimeter of the Love Canal containment Area and public places (LCARA offices, site entrances, parks).

4. Demolish LCARA-owned buildings in EDA Sub-areas 2 and 3 and convert to greenfield site. *Provide maintenance to greenfield sites.*

5. Prepare a development plan proposal for EDA Sub-areas 2-3 and 6-7 to solicit developer interest. Evaluate absorption rates, phasing schedule and cost of development.

6. *Prepare, design and* provide landscape planting in EDA Sub-area 1 to creategreen space.

2.6.1.3 Environmental

1. Resolve with NYSDEC the extent of remediation for EDA Sub-area 2 and 3. Coordinate the timing of remediation efforts.

2. Coordinate with NYSDEC the remediation schedule of the 93rd Street School *and 97th Street Church.*

3. *Resolve with NYSDEC the remediation of BHC contamination on nine impacted properties, if necessary, in Sub-Area 4. Coordinate timing of property sale.*

4. *Coordinate the remediation of Sub-Area 1 with NYSDEC.*

5. *Conduct historic review of structures 50 years and older scheduled for demolition to determine historic significance.*

2.6.2 Long-term Implementation Measures

2.6.2.1 Administrative

1. Complete environmental review (SEQRA) of site specific development proposals.

2. Establish mechanisms to accomplish development proposals in EDA Sub-areas 2 and 3. Consider financial rates of return, risk/reward relationships and market support.

3. Secure municipal *zoning and* site plan approvals for development proposals *in EDA Zones 2, 3, 6 and 7.*

2.6.2.2 Physical Development

1. Complete land and building sales of Black Creek Village single family residential units.

2. Pursue development of parks and planned residential development (Sub-areas 6 and 7)*; including structure, infrastructure (roads, utilities, etc.) and placement of amenities.*

3. Pursue reuse of the 93rd Street School site.

4. Pursue development of commercial, light industrial and office uses in Sub-areas 2 and 3*; including structure, infrastructure (roads, utilities, etc.) and placement of amenities.*

2.6.2.3 Environmental

1. Continue jurisdictional agency monitoring of Love Canal Containment Area environmental quality as required by NYSDOH.

2. *Conduct site specific review for significant animal resources in EDA Zones 2 and 3 pursuant to SEQR.*

2.7 Description of Alternatives

Four development alternatives for the Love Canal EDA have been proposed in addition to the Preferred Alternative. These will be briefly described here. A more in depth analysis is provided in FGEIS Section 7.0, Alternatives. Alternatives proposed include the

No Action Alternative, Demolition/Sanctuary, Resettlement-In- Kind and PUD Concept.

2.7.1 No Action

The No Action Alternative envisions leaving the EDA just as it exists presently. Implementation of this alternative would involve continued minimal upkeep of the houses in the EDA, leaving presently vacant areas as they are and undertaking required environmental monitoring activities by the USEPA and NYSDEC.

2.7.2 Demolition/Sanctuary

The Demolition/Sanctuary Alternative assumes demolition of all structures located within the Love Canal EDA and disallows resettlement. By leaving the EDA in a natural, undeveloped state, it would serve as a passive "museum" to induce an awareness of the toxic chemical problem at Love Canal and throughout the United States.

2.7.3 Resettlement-In-Kind

The Resettlement-In-Kind Alternative envisions single family residential development to the north of Colvin Boulevard, school/park land to the northwest, medium density development to the west, commercial/office to the northeast and single family residential with commercial to the east.

2.7.4 PUD Concept

The PUD Concept Alternative envisions a 70 percent *reuse* factor. This alternative encompasses single family residential development to the north, school/park land to the northwest, medium density residential to the west, medium-high density residential with commerical to the northeast and mixed commercial/office park/hotel to the east.

3.0 ENVIRONMENTAL SETTING

3.0 ENVIRONMENTAL SETTING

The existing environment is defined as the setting for a project (the proposed site, surrounding community and regional area) as it exists prior to the initiation of any developmental activity.

The SEQR Handbook, promulgated for the 1978 Regulations, states the need for a discussion of the environmental setting as follows:

"In order to identify potential environmental effects of a project, the existing environmental setting of the area affected by the project must first be described. A comparison of environmental characteristics with and without the project leads to a determination of environmental impact." (SEQR Handbook, B-22).

This section serves to identify the environmental base as it relates to the proposed action discussed in FGEIS Section 2.0.

3.1 Geology

During the Pleistocene epoch, Western New York State experienced several periods of glaciation. As a result, the Love Canal area exhibits features that are characteristic of glacial erosion and deposition (USEPA 1982).

3.1.1 Subsurface Geology

Bedrock in the vicinity of the Love Canal consists of the Lockport Dolomite type, *a rock formation* composed of calcium *magnesium* carbonate. The Lockport Dolomite was encountered during well drilling activities at a depth of approximately 20 to 45 feet below the land surface and ranges in thickness from approximately 160 feet to 180 feet. The Lockport Dolomite can be described as a dark gray to brown, massive to thin bedded dolomite, locally containing small, irregularly shaped masses of gypsum and calcite. The Lockport Dolomite was found to dip towards the south at a rate of approximately 30 feet per mile (USEPA 1982).

Underlying the Lockport Dolomite is a relatively impermeable rock type referred to as Rochester Shale. The Rochester Shale is a dark-gray calcerous shale (USEPA 1982).

3.1.2 Surficial Geology

In the vicinity of the Love Canal, the Lockport Dolomite is overlaid by a deposit of glacial till ranging in thickness from 5 to 20 feet. The glacial till consists of an unsorted mixture of clay, sand and rock *fragments that was* deposited on the Lockport Dolomite by the advance and retreat of glaciers. EPA field testing found the glacial till was relatively impermeable (USEPA, 1982).

Layers of clay, silt and fine sand exist above the glacial till and were found to vary in thickness from approximately 6 to 29 feet. These materials were deposited in the area by lakes that were formed by the melting and retreat of glaciers during the late Quaternary period (USEPA 1982). Two glacial lakes were chiefly responsible for these deposits. The older glacial lake, Lake Dana, deposited reddish sediments, which had eroded from bedrock to the north, on top of the till. The lacustrine deposits attributable to Lake Dana were found to vary from approximately 2 to 20 feet thick, and were characterized as very moist to wet, very plastic, very sticky, silty-clay to clay. The permeability of these materials was found to be relatively low (USEPA 1982).

Above the Lake Dana deposits were the deposits of Lake Tonawanda, which ranged in thickness from approximately 3 to 8 feet. The materials deposited by Lake Tonawanda tended to be coarser, reddish brown to gray sediments that were characterized as somewhat moist, firm, varved, silty-clay to clay. At a depth of approximately 5 to 8 feet below surface levels the lacustrine deposits were found to be extremely firm to very firm silty-clay, and vertical dessication cracks have sometimes been noted as present. *The primary permeability of Lake Tonawanda deposits (flow between the individual grain boundaries) has been found to be very low. Areas of secondary permeability (along dessication cracks and other discontinuities) has been found to be very much higher (NYSDEC, 1990).*

Above the Lake Tonawanda deposits are layers of silty sand, clayey silt and other fill materials varying in thickness from but a few inches to approximately 3 feet in the general Love Canal area. The permeability of these materials was found to be greater than the underlying clays. Also present in the lacustrine sediments were random deposits of more sandy materials occurring in the form of sand lenses. These more permeable sandy zones were found to occur neither in considerable thickness nor to extend over large areas. Rather these features were found to occur as typically small, generally disconnected deposits as is characteristic of heterogeneous lacustrine material (USEPA 1982). Figure 17: GEOLOGIC UNITS IN LOVE CANAL, graphically describes the above formations and their approximate depths. Furthermore, refer to Section 4.1.4, Development Constraints, for development characteristics of site soils.

System		Formation Unit	Thickness (Feet)	General Geologic and Hydrologic Characteristics
Quaternary	Late	Fill	0.1-3	- Covers nearly entire study area - Varies from local soil material to construction rubble and industrial wastes
		Lacustrine Deposits	6-29	- Sand lenses randomly occur as elongated lacustrine deposits throughout region and consist of loamy to sandy clay; sometimes exposed at surface in undisturbed areas - Total thickness of former glacial lake deposits increases from north to south in vicinity of canal - Upper sequence deposited in former Lake Tonawanda (3-8 feet thick) is reddish brown to gray, moist, firm to very firm, varved, silty-clay to clay; dessication cracks reported in selective areas within sequence - Lower sequence (2-20 feet thick) attributable to former Lake Dana is reddish brown, very moist to wet, very plastic, very sticky, silty-clay to clay - Permeability of lacustrine deposits is generally low
		Glacial Till	1-25	- Reddish brown, moist, firm, silty to sandy clay with gravel and cobbles; sandy zones, well-sorted gravel - Two or three ridges of till oriented NE-SW are in Canal Area - Generally low permeability - Approximately 5-20 feet thick in Canal Area
Silurian	Middle	Lockport Dolomite	160-180	- Dark gray to brown, massive to thin bedded dolomite dipping at low angle to south; secondary deposits of sulfides, sulfates, and carbonates occur throughout the formation - Principal aquifer in Niagara Falls area; major producing zones in upper part of formation - Artesian and unconfined water table conditions exist associated with vertical fracture zones, cavities formed by solution of minerals and between bedding planes - Vertical joint system hydraulically connected to Niagara River
	Lower	Rochester Shale	60	- Dark-gray calcareous shale; relatively impermeable

NOT TO SCALE

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FIGURE 17: Geologic Units in Love Canal

Source: Love Canal Environmental Monitoring Report, USEPA, 1982.

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3.1.3 Soils

The soil at the Love Canal EDA is characteristic of those formed in Lake-laid Clays and Silts (Soil Conservation Service, 1972). This type of soil is nearly level to gently sloping, deep and somewhat poorly drained to very poorly drained. They have a moderately fine textured or fine textured subsoil. This type of soil has a medium to low value for farming.

Typical of the Lake-laid Clays and Silts are soil associations such as the Rhinebeck-Ovid-Madalin Association and the Odessa, Lakemont-Ovid Association. However, since the Love Canal EDA is located in the City of Niagara Falls, much of the area is comprised of fill material which varies from local soil material to construction rubble and industrial wastes and can be found 0 to 1-3 feet below surface (USEPA, 1982). Identification of the above soil types becomes difficult in highly urbanized areas and soil types can only be discussed in general terms as is the case above.

3.1.4 Development Constraints

Natural drainage and *low* permeability are the major limitations to use for development purposes at the Love Canal site unless adequate sanitary sewers and surface drainage are provided (Soil Conservation Service, 1972). Since the Love Canal EDA is a highly developed area these limiting factors will not deter rehabitation efforts or other development uses such as commercial and industrial activities.

3.1.5 Topography

The general area in which the Love Canal EDA exists is relatively flat and is dominated by three major features: the United States and Canadian Falls; the Niagara Gorge and the Niagara Escarpment (USEPA 1982).

The Niagara Escarpment, a steep cliff marking the end of highland, extends in a easterly direction from the Niagara River immediately south of Lewiston, NY to well beyond the general Love Canal area. At the Niagara River, the escarpment is approximately 200 feet high and gradually diminishes toward the east into a broad, gently sloping incline. North of the escarpment the land slopes gently toward the Upper Niagara River (USEPA 1982).

The Love Canal site is located adjacent to the Niagara River within the eastern limit of the City of Niagara Falls, NY. The eastern border of the EDA adjoins and is partially located in the Town of Wheatfield, NY. The Love Canal area is

characterized with a generally level topography (USEPA 1982). As a result, surface water run-off has been historically poor. During rainy periods, areas of ponded water and marshy ground formed, typically to the southwest and southeast of the Love Canal (USEPA 1982).

Prior to the early 1970's, a number of surface soil features, sometimes referred to as swales, existed in the general Love Canal area. Swales were generally shallow depressions (less than 10 feet deep) that presumably served to preferentially drain the area of surface water run-off.

At the present time, however, surface water drainage principally occurs in the Love Canal area through an extensive system of storm sewers. Since the area is serviced by a stormwater sewer system and is a highly urbanized area, any impacts due to flooding and drainage are minimal thereby greatly lessening the impact of future rehabilitation and development at the site.

3.2 Water Resources

When referring to groundwater at the Love Canal EDA, it is important to differentiate between primary and secondary permeabilities. Primary permeability refers to the flow between individual grain boundaries found in soil. Secondary permeability refers to the dessication cracks and other discontinuities found in soils.

3.2.1 Groundwater

Groundwater was found to occur in the Lockport Dolomite in three types of openings. These are listed below (USEPA 1982):

1. Bedding planes: horizontal planes that separate individual layers of rock.

2. Vertical joints: fractures that interrupt the horizontal continuity of the rock unit.

3. Solution cavities: cavities in the rock from which gypsum and calcite have been dissolved.

Most of the water moving through the upper portion of the Lockport Dolomite was found to move through the horizontal bedding planes contained in the top 10 to 16 feet. Groundwater flow in the upper portion of the Lockport (the top 20 feet) was found to be affected by the major trends of

vertical fractures connecting the bedding planes. The lower portion of the Lockport (145 to 170 feet thick) was characterized by seven distinct water-bearing zones having well developed bedding plane separations. Flow in the lower portion of the Lockport Dolomite was found to generally follow the inclination of the formation (USEPA 1982).

Field tests conducted on the bedrock aquifer yielded the following *conclusions* (USEPA 1982):

1. The Lockport Dolomite *formation contains several distinct aquifers.*

2. The upper portion of the *formation has significant permeability in the vertical (as well as horizontal) directions, through zones of secondary permeability.*

3. The primary water bearing zones are in the upper part of the aquifer.

4. Fractures have a substantial effect on the rate and direction of groundwater movement in the upper portion of the bedrock.

5. The upper portion of the bedrock aquifer is hydraulically connected to the Niagara River.

6. The bedrock aquifer in the vicinity of the Love Canal is confined below by the Rochester Shale and above by the glacial till and is artesian.

The deposits above the Lockport Dolomite (the overburden material) were found not to be significant sources of water for the area. The unconfined water-table aquifer existing in the overburden material (shallow ground-water) was found to be bounded by Bergholtz and Black Creeks on the north, Cayuga Creek on the west, and the Little Niagara and Niagara Rivers on the south. In general, the glacial till and the two silty-clay units were found to be of low permeability with small areas of sandy layers occurring within where groundwater could move more readily (USEPA 1982).

The Lockport Dolomite aquifer maintains a steady state of flow on a regional basis by recharge from the topographic highpoint occurring near the Niagara Escarpment. Discharge generally occurs along the Niagara Escarpment, along the gorge wall of the Lower Niagara River, towards the covered conduits of the Niagara River Power Project, and along parts of the Upper Niagara River (USEPA 1982). In relation to the Love Canal area, the gradient of groundwater movement in the dolomite is south and southeasterly towards the Upper Niagara River (USEPA 1982).

Based upon bedrock aquifer tests conducted by EPA at Love Canal, it was estimated that if contaminants were to enter the Lockport Dolomite at the southern end of Love Canal and assuming no attentuation, the average length of time required to reach the Upper Niagara River would be approximately 1000 days (USEPA 1982).

In terms of the shallow groundwater system (that found in the overburden material), water surface elevations suggest a general southwesterly gradient with a possible groundwater mound near the north end of the landfill and a slight depression near the south end of the landfill (USEPA 1982).

In most locations, the computed hydraulic heads of the shallow system were found to be nearly equal to the hydraulic head in the dolomite. Therefore, it is likely that the hydraulic heads measured in the shallow system are dependent on highly local variations in permeability, in recharge in evapotranspiration and in discharge to the creeks and rivers (USEPA 1982). Due to the low permeability and hetergeneous nature of the overburden, groundwater movement in the overburden is generally very slow except in highly localized areas of more permeable material (USEPA 1982).

3.2.1.1 Groundwater Monitoring Results

The EPA groundwater monitoring program revealed no evidence of contamination attributable to Love Canal in the bedrock aquifer and only very localized contamination in the shallow system (USEPA 1982). Generally, evidence of contaminated groundwater that was directly attributable to the migration of substances from the former canal was found only in a few shallow system wells located immediately adjacent to Love Canal in the residential lots of some Ring I houses. *The shallow system wells refer to the flow through the surficial geology.* Clear evidence of groundwater contamination directly attributable to Love Canal was not found outside of the area around Ring I houses or *throughout the rest of the* EDA (USEPA 1982).

Based upon tests in the monitoring wells and a groundwater flow model, it was determined that the barrier drain system was functioning effectively (USEPA 1980). The EPA findings suggest that the barrier drains were operating to intercept chemicals which might be migrating laterally from the canal, to lower the hydraulic head in the canal (to reduce overflow) and to move nearby groundwater towards the drains for collection and subsequent treatment (USEPA 1982).

The studies conducted for the 1988 habitability decision confirm the findings in the 1980 EPA study. The NYSDEC has assessed the effectiveness of the barrier drain by gathering extensive data from groundwater monitoring wells placed in the vicinity of the Love Canal. DEC reports that measurements of groundwater *elevation* and *groundwater* chemical quality indicate the followiing (Decision on Habitability, September 1988):

1. In the overburden soils (upper 20 - 40 feet) groundwater under the cap flows toward the barrier drain both laterally and upward from beneath the drain.

2. Overburden and bedrock groundwater outside the fenced area has been analyzed for more than 100 chemicals, mostly chlorinated hydrocarbons. Most chemicals are reported as less than the detection limit.

3. Some chemicals have been consistently reported from a number of monitoring wells. However, with one exception (BHC's), no LCIC's have been reported. The BHC's were identified in one well in the last round of testing at levels which could not be quantified. This finding will be investigated further as part of the continuing monitoring program.

3.2.2 Surface Water

3.2.2.1 Surface Water Bodies Near the Love Canal EDA

Surface water bodies include Bergholtz Creek, forming the northern boundary of the EDA, and flowing east to west. Black Creek, flowing east to west, is located north of Colvin Boulevard in the EDA, below grade, in a culvert between 102nd Street and 98th Street, and joins Bergholtz Creek near 96th Street. The Upper Niagara River, which also flows from east to west, is located approximately 1/4 mile south of the EDA. A tributary known as the Little Niagara River circles to the north of Cayuga Island. Bergholtz Creek joins Cayuga Creek approximately 1/4 mile northwest of the EDA at a point near the intersection of Cayuga Drive and 88th Street. Cayuga Creek, which flows from north to south, joins the Little Niagara River near South 87th Street. The Little Niagara River joins the Niagara River on the west side of Cayuga Island. Because of the gentle slopes to the beds in Black, Bergholtz and Cayuga Creeks, waterflow is known to occasionally experience gentle reversals due to certain weather-dependent conditions (USEPA 1982).

Surface water locations within and surrounding the Love Canal site are graphically represented on Figure 18: LOCATION OF SURFACE WATER BODIES AT LOVE CANAL EDA.

3.2.2.2 Floodplain

The waterbodies defining the 100 year floodplain at the Love Canal EDA include the Bergholtz Creek and the Class II wetland in the vicinity of Williams Road.

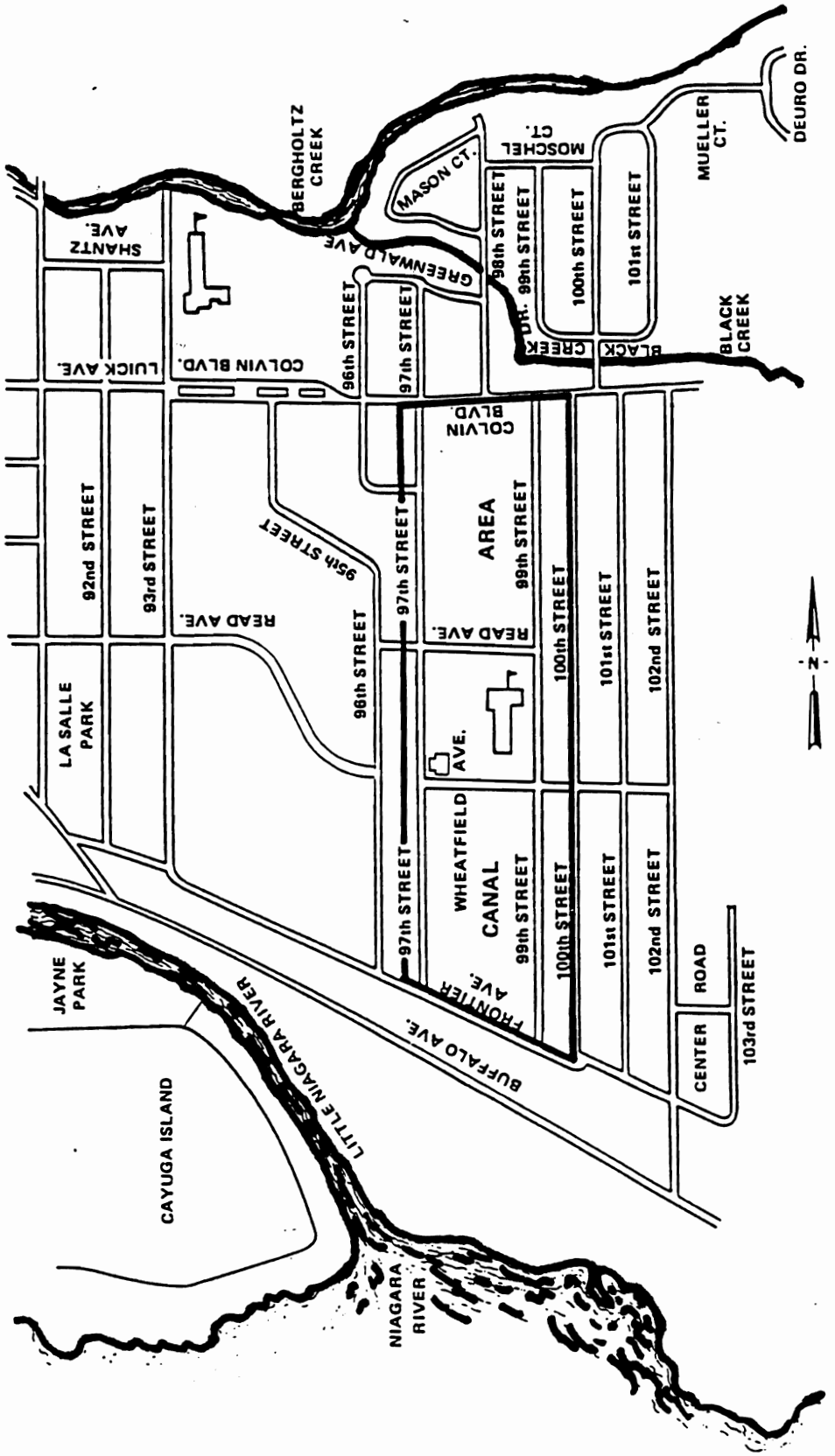
The floodplains located at the Love Canal EDA are graphically described on Figure 19: FLOODPLAIN SURROUNDING THE LOVE CANAL EDA.

The original floodplain map for the Love Canal Area is dated March 16, 1983. This map was drawn with limited topographic survey data and the floodplain boundaries were inexact. Since that time new survey data has become available and a preliminary flood boundary map has been produced. The new map is depicted on FGEIS Figure 19 A: REVISED FLOODPLAIN SURROUNDING THE LOVE CANAL EDA. However, the City of Niagara Falls has not yet adopted the revised floodplain map.

The floodplain located in Sub-Area 4 presents a potential impact to development. Flood insurance is mandatory for federally insured mortgages on homes in the floodway or the 100 year floodplain. It is not mandatory for homes in the 500 year floodplain. The flood insurance rates are fixed according to the degree of risk. Homes in the floodplain which existed prior to the date of the first effective flood insurance map receive a subsidized rate. A home in the floodplain may be improved up to 50 percent of its market value without being considered new construction. Beyond 50 percent improvement, a home would have to meet current regulations. This would mean that the lowest floor (i.e., basement floor) would have to be above flood level or blocking off basement openings.

3.2.2.3 Surface Water Contamination Due to the Spread of Love Canal Contaminants

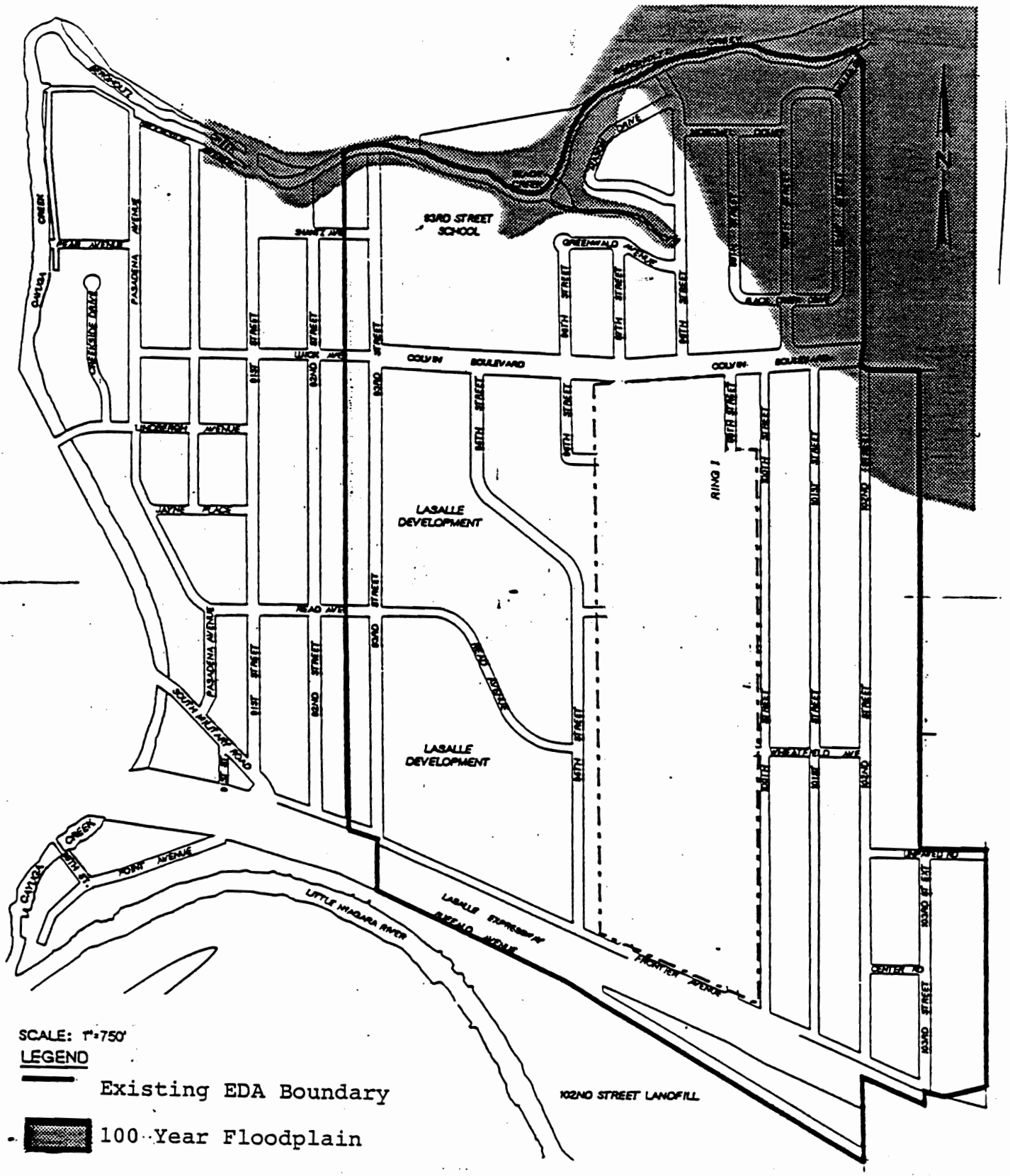
Initially, samples of water and sediment were collected from 12 sites located throughout the waterbodies mentioned above. Sampling sites in the Black Creek and Niagara River were selected based upon proximity to storm sewer outfalls. In addition, samples taken from Black Creek, Bergholtz Creek, the Niagara River and the Little Niagara River were also sampled downstream from Love Canal related storm sewer outfalls in order to obtain some idea of the likely distance that contaminants from Love Canal may have been transported in the identified waterways (USEPA 1982).



LOVE CANAL AREA MASTER PLAN

FIGURE 18: Location of Surface Water Bodies at Love Canal
Source: Environmental Monitoring Report, USEPA, 1982.

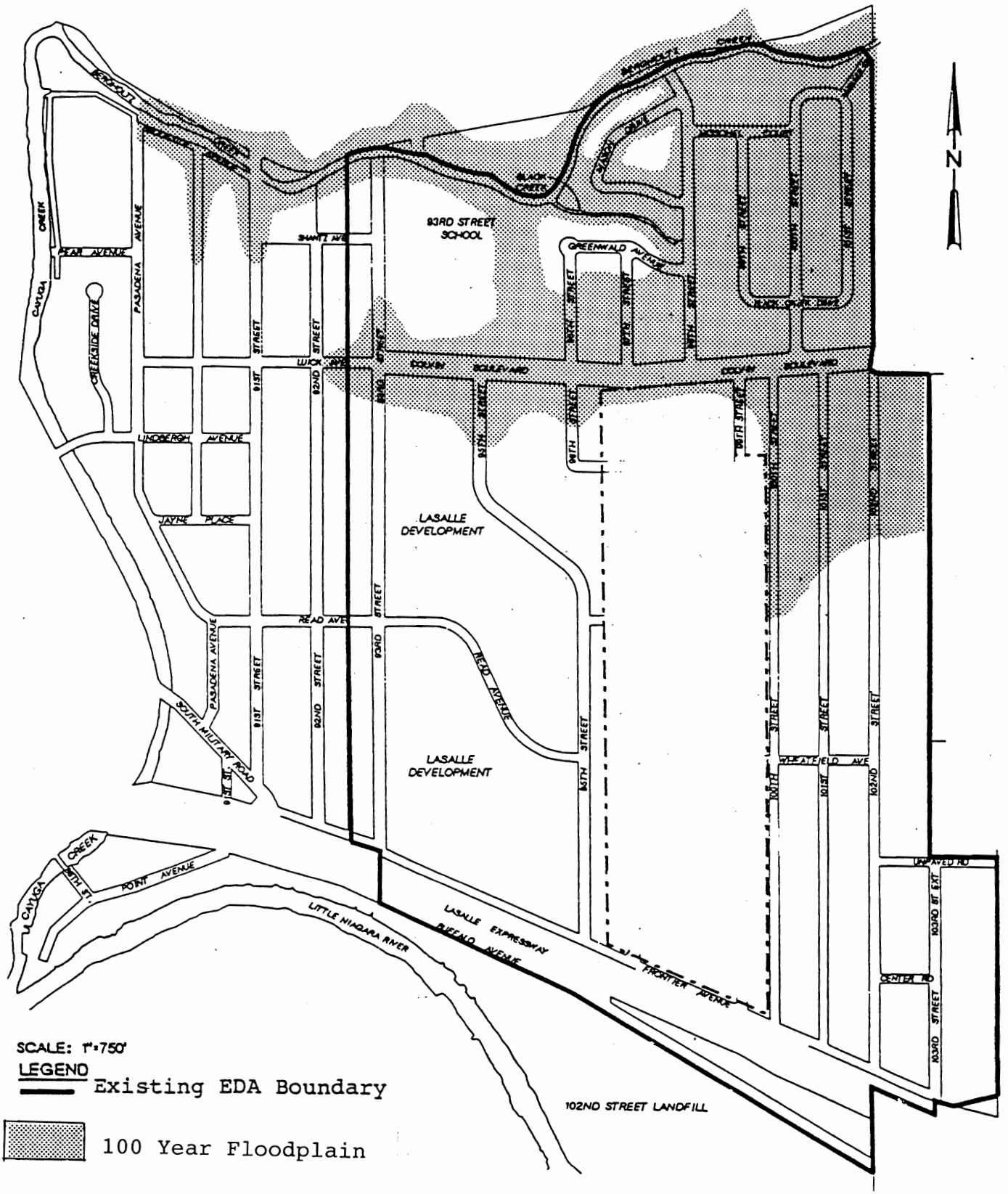
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FIGURE 19: 100 - Year Floodplain, Love Canal EDA
Source: Federal Emergency Management Agency Floodplain Maps

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FIGURE 19A: 100 Year Floodplain, Love Canal EDA, Proposed

Source: Town of Wheatfield and City of Niagara Falls Utilities Maps.

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Surface water samples and sediment samples collected from Love Canal area creeks and rivers revealed highly contaminated sediment and contaminated water in the general vicinity of those storm sewer outfall locations that were fed by lines connecting to the 97th and 99th Street storm sewers (USEPA 1982). In particular, the sediment samples collected in Black Creek near the 96th Street storm sewer outfall revealed that high levels of toxic organic compounds were present, as did sediment samples collected in the Niagara River near the 102nd Street storm sewer outfall. Due to the close proximity of the 102nd Street landfill to water and sediment sampling sites in the Niagara River, it was not possible to verify without a doubt the source(s) of contaminated Niagara River sediment near the 102nd Street outfall (USEPA 1982).

Since the Love Canal area is virtually surrounded by storm sewer drains, a primary concern was the extent to which contaminants spread off-site through the sanitary and storm sewer systems to the area's surface water bodies. Samples of sanitary sewer water and sediment were collected from the Love Canal EDA access point at the intersection of Wheatfield Avenue and 101st Street. This location was selected for analysis because it was directly connected to the portion of the sanitary sewer line installed across from the landfill, under Wheatfield Avenue, by the City of Niagara Falls in 1957 (USEPA 1982). This line was encompassed by the barrier drain system in 1979 and plugged at 99th Street by the City in early 1980 (USEPA 1982).

A total of 29 sampling sites were included in the storm sewer portion of the monitoring program. Both sanitary sewer water and sediment samples clearly identified the presence of contaminants, with higher concentrations revealed in the sediment samples (USEPA 1982). A number of substances were identified as indicators of the direct migration of contaminants from Love Canal (USEPA 1982).

Several factors may have contributed to the transport of contaminants from Love Canal into the nearby storm sewers. These include the following (USEPA 1982):

1. A French drain around the 99th Street School that was connected to a sewer line on 99th Street;

2. Storm sewer laterals on Read and Wheatfield Avenues that were connected to storm sewer lines on 97th and 99th Streets, and;

3. A catch basin at 949-953 97th Street located near the boundary of the former canal that was connected to a storm sewer line on 97th Street.

In addition to the above, prior to remedial action, the overland flow of surface contaminants may have reached the encircling streets where they would have been captured by the existing curb drains.

The evidence obtained from the storm sewer monitoring program revealed a clear pattern of direct, Love Canal related contamination in all storm sewer lines that connect to the storm sewers originating on 97th and 99th Streets (USEPA 1982) In general, the patterns of contamination revealed by the data suggested the occurrence of decreasing contaminant concentrations with increasing distance from the canal. The samples indicated no evidence of Love Canal related contamination in storm sewers sampled that were isolated from direct canal area flow (USEPA 1982).

The decision to clean the sewers was based upon samples taken for the DEC in 1983 by Malcolm Pirnie, Incorporated of Niagara Falls. Liquid and sediment samples were collected from various manholes throughout the area (Love Canal Landfill, Issue 10, July 1986). Samples were taken in both dry and wet weather and under storm event conditions. The amount of storm and sanitary sewer lines that have been cleaned total approximately 65,000 feet (Love Canal Landfill, Issue 10, July 1986).

Two methods to clean the lines were used. These included hydraulic flushing and mechanical cleaning. Hydraulic flushing is done through use of a high pressure stream of water forced through the sewer lines. Mechanical cleaning is a technique which utilized a cylindrical bucket to scoop sediment from the sewer line (Love Canal Landfill, Issue 10, July 1986). The sediments and water taken from the sewers were taken to an on-site dewatering facility for cleaning.

3.3 Air Resources

3.3.1 Climate

Niagara County has a humid, continental type of climate. The North American continent is the primary source for air masses and weather systems that affect the County. Air flow from the south or southwest brings moisture to the region from the Atlantic Ocean and the Gulf of Mexico.

The county has pleasantly warm summers. The winters are fairly long and cold, with frequent spells of cloudy, unsettled weather. Precipitation generally is evenly distributed during the year, though minimum monthly level is slightly less during winter than during other seasons. The county does not have distinct seasonal differences in maximum precipitation.

Average total is 32.6 inches (Soil Conservation Service, 1972). Average total snowfall is 56 inches (Soil Conservation Service 1972).

The climate is greatly influenced by the close proximity of Lakes Ontario and Erie. In spring, the cold lake waters function as a heat sink that retards the normal warming of the air temperature. Plant growth is delayed and tender crops are aided in passing more safely through critical periods of freezing temperatures. The lakes tend to restrict the occurrence of extreme high temperatures in summer. Niagara County is, therefore, less subject to severe thunderstorms caused by strong summer heating than are other counties farther inland. In fall the lake waters are a source of heat that reduces cooling at night and increases the length of a freeze-free growing season. Lake Ontario, and Lake Erie to a lesser extent, remain largely unfrozen in the winter, and this modifies the occurrence of extreme cold temperatures in comparison with more inland areas of similiar elevation and latitude (Soil Conservation Service 1972).

Nearness to the Great Lakes is an important factor in the amount of snow that falls in the county. Air flow from the southwest is heated and moistened as it moves across the open, relatively warm waters of Lake Erie. Moving inland, the air masses release moisture in the form of heavy snowfall. These lake affected storms are most common in December and January. They are characterized by substantial snow over a wide area and very heavy amounts in narrow bands or local areas. The frequency and intensity of these storms decrease later in the winter as more of the lake surface becomes covered with ice. Niagara County is less affected by such storms arising over Lake Ontario (Soil Conservation Service 1972).

Elevation is of minor influence on the climate because of the relatively small differences in the county. The climate is comparatively uniform, except as it may be affected by distance from the Great Lakes (Soil Conservation Service 1972).

The County has a significant amount of cloudiness in the winter. High winds often accompany the lake affected snow-storms and hamper travel. Otherwise, severe and damaging storms of various types are not a serious weather hazard to the inhabitants and economy of this area (Soil Conservation Service 1972).

3.3.2 Air Quality

The air monitoring results *during the initial testing period at Love Canal* were consistent with the findings obtained from testing other environmental media. Air contamination levels

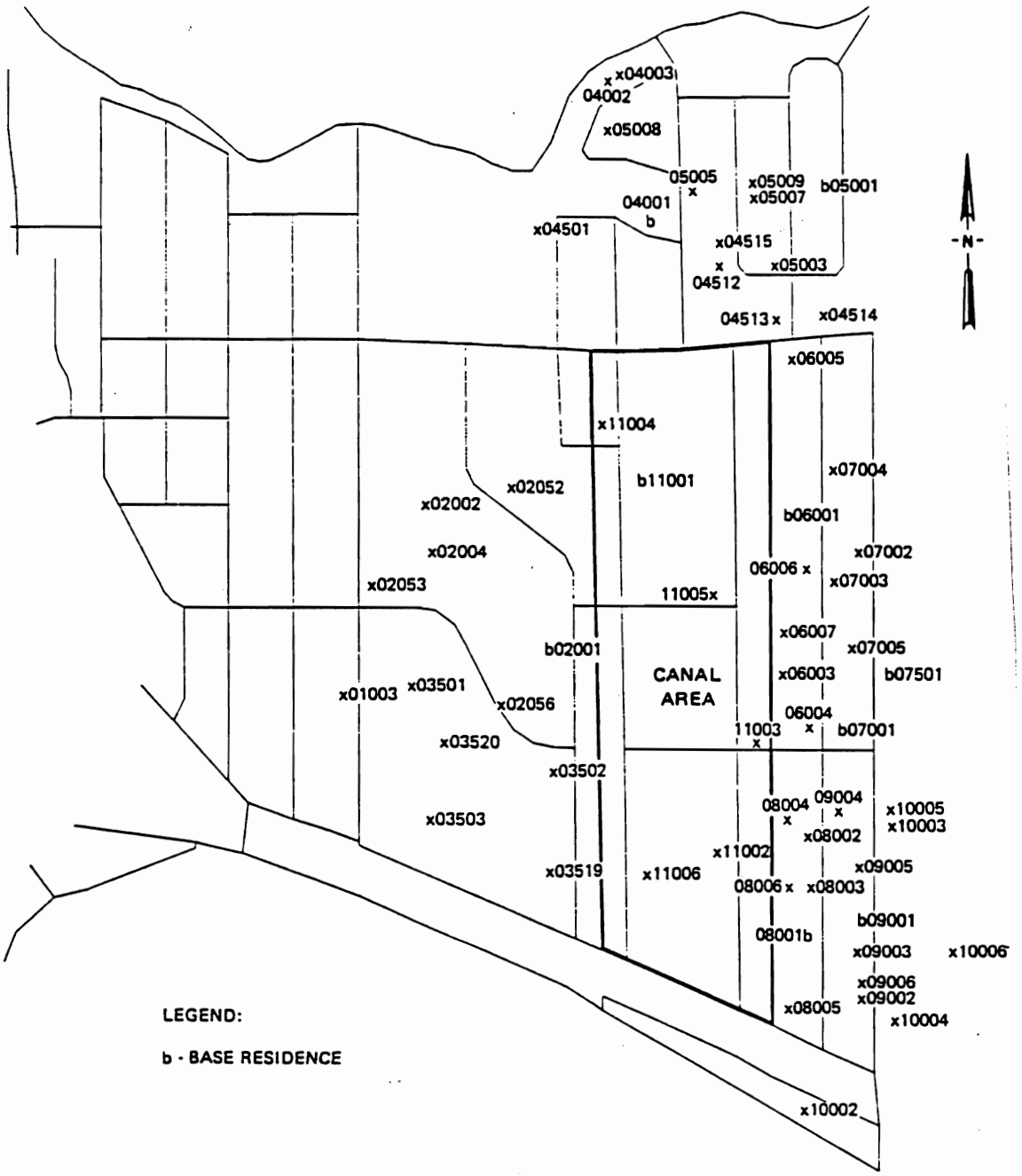
were elevated in a few Ring 1 houses, namely those houses where other monitoring media efforts identified the presence of contaminants that had migrated from Love Canal. Outside of the relatively few Ring 1 houses affected, no pattern of regular indoor, or basement air contamination was observed (USEPA 1982). No clear evidence of air pollution was found in the EDA that could be directly attributed to contamination emanating from the Love Canal (USEPA 1982).

A total of 61 sites in the EDA and 4 control sites were selected for regular air monitoring purposes. These sites are graphically represented on Figure 20: AIR SAMPLING SITES. The control sites were located on Stony Point Road, Grand Island; West River Parkway, Grand Island; Pierce Road, Niagara Falls; and Packard Road, Niagara Falls (USEPA 1982). At each air sampling site, 13 regular daytime samples were taken (USEPA 1982).

Three special air monitoring research studies were conducted at Love Canal. Results of these studies showed that, first, airborne contaminants detected indoors were also detected in the outside ambient air and may have been transported from upwind sources. Second, activities associated with domiciliary occupancy could potentially increase indoor air pollution levels. Third, highly contaminated sumps could serve as potential contributing sources of high levels of indoor air pollution (USEPA 1982).

The results of the sump monitoring program revealed a pattern of environmental contamination consistent with other environmental media sampled. Study of sumps revealed that substantial amounts of contaminants had migrated directly from Love Canal prior to remedial activities (USEPA 1982). Sump contamination was found in Ring 1 residences that were suspected of having been subjected to the overland flow of contaminants from the landfill before remediation efforts. Ring 1 houses that had been constructed in the vicinity of more permeable soil pathways to ground migration of contaminants prior to remediation efforts were also affected (USEPA 1982). Prior to remediation sump water was discharged into local storm sewer lines on 97th and 99th streets (USEPA 1982). As of this date no sump water contamination has been detected in homes outside of the former Ring I and Ring II homes.

Air sampling was also done for the recent habitability study conducted by the NYSDOH which reinforces the findings from the initial 1982 USEPA environmental review document. To assess the potential for air contamination in homes in the EDA, ambient and indoor air was sampled at 562 properties for chlorobenzene and chlorotoluenes, LCIC's for air. Chlorobenzene was not detected at any of the properties sampled. Chlorotoluenes were detected in one unoccupied residence. No



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FIGURE 20: Air Sampling Sites

Source: Environmental Monitoring Report, USEPA, 1982.

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obvious source of contamination could be found for this sample (Decision on Habitability, September 1988). The resulting conclusion of tests on air in the habilitability studies was that no dwellings are currently being adversely affected by ambient or indoor air contamination (Decision on Habitability, September 1986).

According to NYSDEC, on-going air testing is conducted at the Love Canal during all remediation activities. As of this date, no air contamination has occurred which has exceeded acceptable limits nor presenting any threat to human health (NYSDEC, 1990).

3.4 Terrestrial and Aquatic Ecology

3.4.1 Plant Species

The Love Canal EDA contains no rare or endangered plants, although one species, the Sky-Blue Aster, was identified as possibly existing on the site. A plant survey was conducted and no trace of the Sky-Blue Aster was found. However, another protected species, the Closed Gentian, was discovered off-site, south of the Class II wetland and west of 103rd Street. No trace of the Closed Gentian could be identified within the boundaries of the Love Canal EDA as per correspondence from Ms. Pat Eckel of the Buffalo Museum of Science, and therefore, will not impact development activities at the Love Canal EDA. Ms. Eckel's report is provided in FGEIS Appendix E.

3.4.2 Animal Species

No significant wildlife species exist at the Love Canal as per correspondence from the NYSDEC. Being a highly urbanized area, identification of significant wildlife species is unlikely. Some local species of urban wildlife may be impacted in the areas to be remediated and developed, especially in Sub-Areas 2 and 3 (i.e., squirrels, birds). There are no virgin timberland or wildlife habitats existing in Sub-Areas 4 - 7. Sub-Areas 2 and 3 have also been highly developed with single family residential units. The wetland is the only undeveloped section of the EDA although according to aerial photographs, the area was once utilized for farming activities.

Mr. Burrell Buffington of the Significant Habitat Unit states that...Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site- specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled

from our files. We cannot provide a difinitive statement on the presence or absence of species, habitats or natural communities."

Mr. Buffington further states that "If this project is still active one year from now we recommend that you contact us again so that we may update this response." As a result, the information obtained from NYSDEC is the most recent data available.

3.4.3 Wetlands

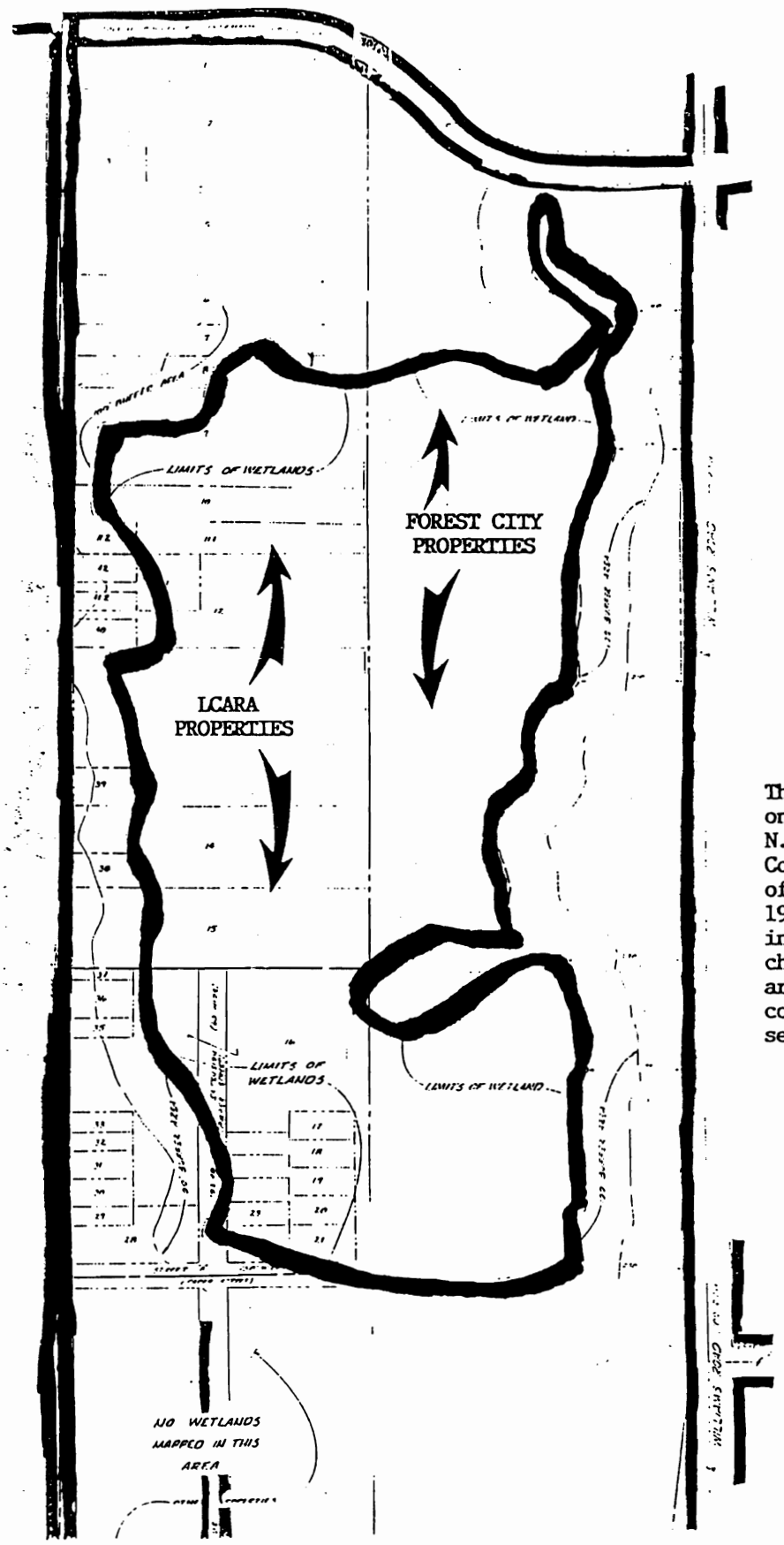
An identified wetland exists between 102nd Street and Williams Road. Refer to Figure 21: WETLANDS IN THE VICINITY OF THE LOVE CANAL EDA, graphically represents the location of the above wetland.

According to 6 NYCRR Part 664, "it is the public policy of the state as set forth in the freshwater wetlands act, to preserve, protect and conserve freshwater wetlands and the benefits derived therefrom, to prevent the despoliation and destruction of wetlands, and to regulate the use and development of wetlands to secure the natural benefits of those wetlands, consistent with the general welfare and beneficial economic, social and agricultural development of the state." (6 NYCRR 664).

The wetland within and adjacent to the Love Canal EDA is a NYSDEC regulated Class II wetland and is approximately 25 acres. Class II wetlands are regulated by 6 NYCRR Part 664.5 (b). Development within and near to a DEC classified wetland requires a permit under regulations provided in 6 NYCRR Part 663.4 and 663.5.

Furthermore, the United States Corps of Engineers, as per Section 404 of the Clean Water Act, maintains regulatory control over the Class II wetland at the Love Canal. The boundaries for the wetland will likely be larger than that identified by the NYSDEC. The larger of the boundaries will be the adopted boundary used for master planning purposes.

LCARA has stated that the Class II wetland will be preserved and protected as per the regulations identified above. Furthermore, as a property owner, LCARA has a right to request a permit from the NYSDEC and the US Army Corps to undertake development activity within the wetland and accompanying buffer. State and federal laws identify procedures under which development may occur in wetland areas without compromising the social and natural values which the wetland regulations are designed to protect. Should LCARA pursue development within the wetland, the Agency will comply with all federal and state



Location and extent of wetland TW 6 located between 102nd Street and Williams Road.

NOTE

The wetland boundaries indicated on this map are those marked by a N.Y.S. Department of Environmental Conservation biologist in the course of 2 field inspection trips, one in 1988 and one in 1989. The lines indicate the extent of vegitation characteristic of wetlands. These areas may or may not be wet or contain "wetlands" in the classic sense.

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FIGURE 21: Wetlands in the Vicinity of the Love Canal EDA
Source: Love Canal Area Revitalization Agency (LCARA)

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regulations regarding permitting and development.

3.4.4 General Biological Testing

A limited program of biological monitoring, involving selected native biological species, was conducted for the purpose of investigating the potential biological availability and biological accumulation of contaminants that may have migrated from Love Canal. It should be made clear that the biological monitoring program was neither designed nor intended to provide insight into the health or ecological effects of those contaminants that might be found in biota. Furthermore, the monitoring program was not intended, and made no attempt, to determine the behavior of any chemicals found in the biological species investigated, to determine the kinetics of biological uptake or to determine the impact of the chemicals monitored on the species considered (USEPA 1982). Rather the biological monitoring program was intended to provide limited, suggestive indication of the accumulation of contaminants in biological systems (USEPA 1982).

The local species selected for monitoring purposes were crayfish, domestic dogs, silver maple tree leaves and worms. The results of the biological monitoring program were found to be of limited value. Because the results obtained did not demonstrate the biological uptake of contaminants from the former canal, the EPA study published in 1982 did not extensively discuss or detail the results.

Furthermore, in October 1987 the Division of Hazardous Waste Remediation entered into a Memorandum of Understanding with the Division of Fish and Wildlife to perform a study of fish in the Cayuga Creek system in order to assess the impacts of the sewer cleaning and the Black and Bergholtz Creeks remediation would on the fish in this creek. The first of three sampling events was performed in October 1987 with the remaining two planned for October 1990 and October 1992.

An interim report concluded that the 2, 3, 7, 8-TCDD concentrations in Cyprinid Fish (i.e., minnows, dace, carp) has declined significantly between 1982 and 1987.

3.4.5 Impacts to Development

A number of constraints to development exist at the Love Canal in terms of the site's terrestrial and aquatic ecology. These are described briefly below:

3.4.5.1 Significant Plant Species

The NYSDEC Information Services Wildlife Resources Center suggested that a potentially significant plant species, the Sky-Blue Aster, might exist in the Love Canal EDA. A thorough search of the area has been conducted by a representative of the Buffalo Museum of Science and no Sky Blue Aster was identified. Although no Sky Blue Aster has been found in the EDA, an extensive population (+200) of Closed Gentian (Gentian andrewsii) was discovered *off-site, south of the Class II wetland and west of 103rd Street. No trace of the Closed Gentian could be identified within the boundaries of the Love Canal EDA.* This plant is protected by NYS Law (Section 193.3 of the NYS Penal Code) and is reported as "rather frequent" in the Niagara Frontier Region (Eckel, 1989). The full text of the survey can be found in Appendix E.

3.4.5.2 Wetlands

A NYS regulated Class II wetland exists east of the site between 102rd Street and Williams Road extending north to Colvin Boulevard south to the midpoint of 103rd Street. *The wetland will be protected and preserved under the Preferred Alternative.*

The Class II wetland adjacent to the Love Canal site is regulated by 6 NYCRR Part 664.5 (b). Development within and near to a DEC classified wetland requires a permit under regulations provided in 6 NYCRR Part 663.4 and 663.5.

Furthermore, as a property owner, LCARA has a right to request a permit from the NYSDEC to undertake development activity within the wetland and accompanying 100' buffer. State and federal laws identify procedures under which development may occur in wetland areas without compromising the social and natural values which the wetland regulations are designed to protect.

3.4.5.3 Creek Sampling and Clean-Up

On September 22, 1989 removal of the contaminated creek sediments from all three reaches was completed and the remaining creek bed restoration work begun. This work included final grading of the creek bed and crib wall installation adjacent to the upstream side of the 91st Street bridge. By October 26, 1989 this work was completed and water was allowed to flow back into the creeks.

Occidental Chemical Corporation's (OCC) processing facility at the 93rd Street School site performed satisfactorily throughout the remedial effort. All creek sediments that went to OCC's main plant storage facility on Buffalo Avenue. As a result by September 14, 1989 the Dewatering Contamination Facility (DCF) was filled with construction demolition debris (CDD) material only and final capping began on that date. The capping was substantially complete with topsoil in place and seeded by October 6, 1989.

Throughout November 1989 the contractor, Sevenson Environmental Services, Inc. (SES) concentrated on restoration of the creeks area and completing force main installation work for the Decontamination/Drum Storage Facility (DDSF) Both the General and Mechanical contracts with SES for the DDSF have been substantially completed. The electrical contract for the DDSF with Ferguson Electric Construction Company, Inc. is substantially complete. It is in the process of being closed out upon completion of two (2) change work orders.

Final restoration work, including reseeding, revegetation asphalt repair, final grading and final punch list items is to be completed in the spring of 1990. A letter advising property owners of this was sent by NYSDEC on December 28, 1989. The Black and Bergholtz Creeks Remediation contract was declared substantially complete as of December 16, 1989. Outstanding activities include the punch list items to be completed by mid-June 1990 which will close out the creek remediation contract.

3.5 Transportation

3.5.1 Existing Roadway Network

The historic form of Niagara Falls is a north, south, east, west grid of streets. The grid in recent years has been interrupted by big, new developments in the downtown area and by the Robert Moses Parkway (R/UDAT Report 1984). Major access routes through the City in the western section from Buffalo include I-190 (the Niagara Section of the New York State Thruway). Major NYS routes include Route 62 (Niagara Falls Boulevard) and Route 265/384 (Military Road/River Road).

Figure 22: REGIONAL TRANSPORTATION NETWORK, graphically describes the above roadways.

In the vicinity of the Love Canal project area, major access to the site is achieved from Williams Road via Colvin Boulevard or by the LaSalle Expressway as well as by numerous secondary access points such as River Road/Buffalo Avenue.

Figure 23: LOCAL STREET SYSTEM, graphically describes the existing street pattern in the Love Canal EDA.

3.5.2 Proposed Improvements

A full inventory of the streets within the Love Canal EDA is provided in Appendix E. Based upon a visual assessment of the streets within the EDA by the City Engineer's office in August of 1989, most streets require Type I or Type II resurfacing. Definitions of these classifications are also provided in Appendix F.

Furthermore, the State of New York is proposing an upgrade of the I-190 interchange which will facilitate traffic flow by routing traffic directly to the LaSalle Expressway rather than on local streets.

3.5.3 Accident Data

According to the City of Niagara Falls City Engineer's office, no intersections within the Love Canal EDA were/are considered problem intersections. This is attributable to the low volume of traffic using these streets. A review of accident data by the City Engineer's office reveals a similiarly low accident rate.

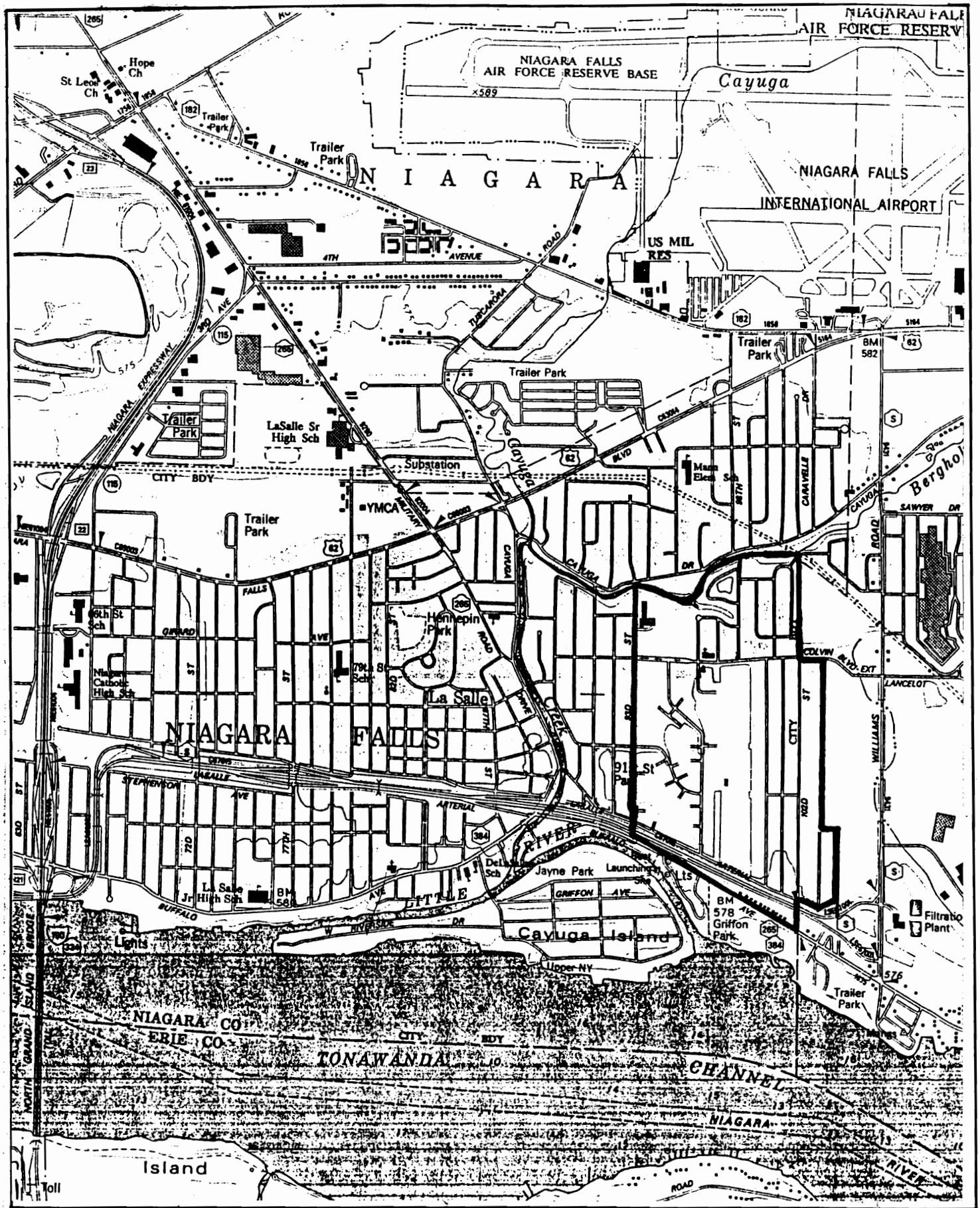
3.6 Land Use and Zoning

3.6.1 Existing Land Use

3.6.1.1 Off-Site Land Uses

Land uses in the immediate vicinity of the Love Canal EDA include an extensive transportation network, residential areas, commericial areas and hazardous waste landfills. Major transportation routes surround the site include Cayuga Drive, Williams Road, the LaSalle Expressway, Military Road and Niagara Falls Boulevard. There are established residential neighborhoods to the west and north and a commercial strip to the east of the EDA along Williams Road in the Town of Wheatfield.

To the south of the site and the LaSalle Expressway is the 102nd Street landfill which is owned by Occidental Chemical Corporation. *The landfill consists of two parcels, one owned by Occidental Chemical Corporation and the other by Olin Chemical Corporation.* The landfill has been closed and is under investigation by the NYSDEC and USEPA. Griffon Park, located to the west of the landfill, has been closed due to

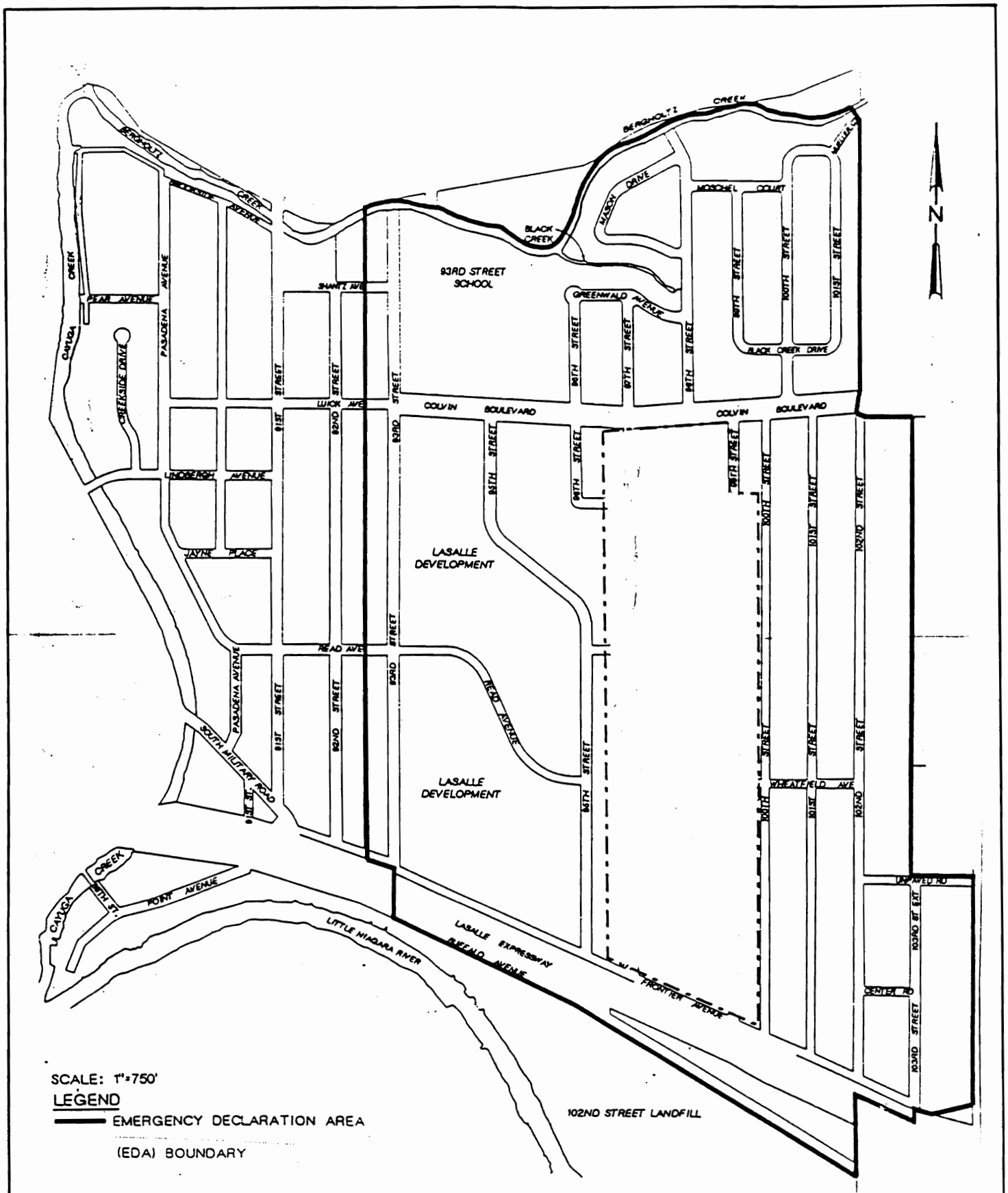


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FIGURE 22: Regional Transportation Network

Source: NYSDOT Quadrangle Map

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FIGURE 23: Local Street System

Source: Love Canal Emergency Declaration Area Habitability Study, 1988.

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suspected leakage of toxic materials from the landfill.

3.6.1.2 On-Site Land Uses

The Love Canal EDA is *predominantly* vacant land with approximately 60 active residential units scatterd throughout. Most houses are boarded up, some are burned out and some are in serious need of repair. The houses are maintained to the extent feasible. LCARA oversees a groundskeeping crew to mow the lawns and provide general upkeep of the properties. Concentrations of housing structures are located in the eastern and northern portions of the Love Canal EDA.

The central portion of the EDA is the location of the buried chemical contaminants. This area was also the location of Ring I and Ring II houses. The central 65-acre portion of the site is presently a well manicured grassy area surrounded by an eight foot chain link fence and posted with hazardous waste signs.

The western portion of the site is predominantly vacant land which until recently was the location of a United States Department of Housing and Urban Development sponsored housing project. The western section of the EDA also contains vacated structures which at one time were elderly housing units. The property is presently owned by the City of Niagara Falls Housing Authority.

3.6.2 Existing Land Use Plans

3.6.2.1 Town of Wheatfield

The Comprehensive Plan of the Town of Wheatfield is an official statement of its planning policies on growth and development. The plan is used as a basis for Town decision making and a guide to orderly future growth and development throughout the Town. The plan was formulated in 1959 and has been updated in 1980. In the Comprehensive Plan Update, needs of the Town and potential development problems were projected for the next twenty years.

According to the 1980 update to the Town of Wheatfield Comprehensive Master Plan, the portion of the Love Canal site located within the Town of Wheatfield has been *identified* as a low and medium density residential area (Town of Wheatfield Comprehensive Master Plan Update 1980).

3.6.2.2 City of Niagara Falls

The most recent resource document available is the 1977 Master Plan since the City of Niagara Falls is in the process of updating its Comprehensive Plan.

In the 1977 plan, the land use for the Love Canal area is designated as residential. However, Community Development Office officials in the City of Niagara Falls have said that any future land use plans identified for the Love Canal EDA are to be integrated into the City's Master Plan update, and will be contingent upon the findings of present planning activities for the area.

3.6.3 Existing Zoning

3.6.3.1 Town of Wheatfield

The area of the Love Canal EDA included within the Town of Wheatfield is zoned R-2, Residential. Immediately adjacent to the R-2 zone is a C-1 Commercial.

Permitted uses in the R-2 District includes two family dwellings as well as those in R-1 (single family dwellings, churches, schools, parks, playgrounds and fire stations).

Permitted uses in the C-1 District include all uses allowed in the R-C District as well as uses ranging from retail sales within a completely enclosed building, laundromats, building materials supply, mobile home courts and golf driving ranges.

Much more in depth explanations of the R-2 and C-1 zones can be found in the Town of Wheatfield Zoning Ordinance, Article III, Sections 1.3 and 1.7, respectively. They are also included in the Appendix B of this document, entitled Town of Wheatfield Zoning.

3.6.3.2 City of Niagara Falls

The area of the Love Canal EDA included in the City of Niagara Falls is zoned R-1, One Family Residential; R-1-A, One Family Residential; and R-1-G, General Residential.

Permitted uses in the R-1 and R-1-A Districts include one family dwellings, elementary and high schools, churches, public and semi-public buildings, offices when conducted in dwellings (i.e., doctors, dentists, architects), customary home occupations, accessory buildings, automobile parking and signs (as provided in Section 1335.01).

Permitted uses in the R-1-G District include all uses permitted in the R-1 District, Planned Residential Development and uses requiring a special permit (e.g., colleges/universities, seminaries/convents, fraternity and sorority houses, golf clubs, country clubs and hospitals).

Explanations of the R-1, R-1-A and R-1-G zoning districts can be found in the City of Niagara Falls Zoning Ordinance, Chapter LXVII of the City of Niagara Falls Ordinance, Sections 1333.01, 1333.02 and 1333.03, respectively. Descriptions of these zones are also provided in Appendix C of this document entitled City of Niagara Falls Zoning.

3.7 Community Services

3.7.1 Educational

The Love Canal area is serviced by two school districts,; the Niagara-Wheatfield School District and the City of Niagara Falls City School District.

Niagara Wheatfield Central School District

The area of the Love Canal EDA serviced by the Niagara Wheatfield Central School District includes 102nd Street (odd numbers only) and 103rd Street (numbers 413 - 497). Students living in these areas attend Errick Road Elementary, serving grades K-5; Edward Town Middle School, serving grades 6-9; and Niagara Wheatfield Senior High School, serving grades 10- 12.

The Niagara Wheatfield Central School District recently commissioned the Erie and Niagara Counties Regional Planning Board to do enrollment projections for the school district. However, the school district is disputing the results obtained from the planning board and the school district has not made a formal decision as to which projections they will use their own or the Planning Boards (Radin 1989).

The Errick Road Elementary School which services the Love Canal Area is presently overcrowded. The district is planning a 24 room expansion at the school (Radin 1989). Twelve rooms are to be reserved for the local BOCES and 12 are to be for the school district. Generally, any increase in school children as a result of the rehabitation of the Love Canal will be absorbed sufficiently by the existing school system (Radin 1989).

City of Niagara Falls School District

Schools servicing the Love Canal EDA within the City of Niagara Falls include the 95th Street School, located north of the Bergholtz Creek (Geraldine Mann Grade School), the 79th Street School (elementary school), the La Salle School (Junior High) and the Niagara Falls Senior High School.

The Administrator for Research, Planning and Evaluation for the City of Niagara Falls School District has stated that the City's elementary schools are presently underutilized. All have excess capacity of 25 to 50 students with the downtown schools able to accommodate 75 to 100 more students *with the exception of the three smallest downtown schools of Hyde Park, Maple Avenue and H.J. Kafas. For planning purposes, these schools can be considered at capacity. Niagara Street and H.F. Abate could accomodate 75 to 100 new students.*

The middle schools are presently overutilized. These facilities are presently at or above capacity.

The senior high schools are also at or above capacity due primarily to the closing of the Trott Vocational School. Activities at Trott have been transferred to the two remaining high schools with the bulk going to LaSalle High School.

The City of Niagara Falls City School District has formally recognized the need to reutilize the 93rd Street School as an educational facility. Mr. Carmen Granto presented a statement explaining the school district's position at the DGEIS Public Hearing held on January 4, 1990.

Mr. Granto stated that, "Due to certain school and community dynamics and with the aforementioned facilities philosophy in mind, the Niagara Falls City School District has reconsidered its position related to the use of the 93rd Street School. After careful study and consideration the district has concluded that a revitalized 93rd Street School will be needed for use as a school or instructional site. A number of factors have led to this conclusion."

The factors which Mr. Granto referenced at the public hearing include the following:

1) *Increase in Public Enrollment*

   The district will need the 93rd Street School for instructional programs due to actual and projected increased enrollment as follows:

   a) *District projections indicate that the previously declining enrollment has stabalized and will show a*

moderate increse over the next several years. These increases are projected even without accounting for any major increase in business or industry relocation. Revised school projections for the City of Niagara Falls City School District are provided in FGEIS Appendix Z.

b) A decline in non-public school programs and enrollment has led to a subsequent increase in public school enrollment.

c) The revitalization of the Love Canal will also increase district public school enrollment.

2) District Initiatives

The Niagara Falls School District is planning major program initiatives over the next several years which will require additional facilities. These initiatives include implementation of one or more magnet schools as well as early childhood and pre-kindergarten programs and the possibility of full day kindergarten.

3) Additional Factors

a) The age and good condition of the school building makes the reopening of the 93rd Street School an asset to district facilities and would be cost-effective as compared to renovation or expansion of other, older buildings.

b) The district is preparing to meet the needs of the school of the 90's by providing site based community services directly related to students and their parents and families.

c) The district has worked cooperatively with other agencies such as Niagara-Orleans BOCES, the language development program and Head Start by renting classroom space. In addition, the district has begun two child care programs. To continue these ventures, the district will need to maintain as well as find additional space.

3.7.2 Police Protection

3.7.2.1 Town of Wheatfield

Police protection for the Town of Wheatfield is provided by the Niagara County Sheriff's Office.

3.7.2.2 City of Niagara Falls

Police protection is provided to the Love Canal EDA by the City of Niagara Falls Police Department, located at 520 Hyde Park Boulevard. There are no individual precinct houses servicing the City.

3.7.3 Fire Protection

3.7.3.1 Town of Wheatfield

There are five fire districts servicing the Town of Wheatfield. The Frontier Fire Company provides protection to the Love Canal EDA.

3.7.3.2 City of Niagara Falls

The Military Road Firehouse located at Military Road and Boullier Avenue and the 79th Street and Frontier Avenue Firehouse provide primary protection to the Love Canal EDA. When both of these stations are on call, the City relies on trucks from the north end to take care of the Love Canal. Two engines and a truck always respond.

The City of Niagara Falls maintains a mutual aid agreement with the County. The nearest station which would provide back-up is the Frontier Fire Company located in the Town of Wheatfield.

No problems are currently experienced in providing fire protection service to the City. Since no problems existed before emergence of the Love Canal emergency, none are foreseen following rehabitation (City of Niagara Falls Fire Chief, 1989).

3.7.4 Health Care Facilities

Hospital facilities servicing the area encompassing the Town of Wheatfield and the City of Niagara Falls include Mount Saint Mary's Hospital of Niagara Falls located at 5300 Military Road, Lewiston and Niagara Falls Memorial Medical Center located at 621 Tenth Street in Niagara Falls. Hospital facilities are also located in Newfane, Buffalo, Lockport and North Tonawanda.

3.7.5 Social Services

Social services are provided to residents of both the Town of Wheatfield and the City of Niagara Falls through traditional programs and services offered by various City, Town and County

agencies.

3.7.6 Recreational Facilities

3.7.6.1 Town of Wheatfield

There are presently no parks or open space areas in close proximity to the Love Canal EDA. The nearest park is the Riverfront Park located on River Road, and Fairmount Park, located on Nash and Steig Roads. Both parks are heavily utilized. The Town also maintains five satellite parks located at each fire company. *The satellite parks are all less than one acre in size.* These include Adams Fire Company (Nash Road), Baisch Park (Connecting Boulevard), Shawnee Park (Lockport Road), St. Johnsburg Fire Company (Ward Road) and American Legion Park (Ward Road). The total area of parks and recreation areas in the Town of Wheatfield is approximately *50* acres (Town of Wheatfield Recreation Department, 1989).

A new park area is being planned on Catherine Drive which will replace the one taken for the Summit Park Mall construction. The proposed park will contain a playground, ballfields and tennis/basketball courts (Town of Wheatfield Recreation Department, 1989).

3.7.6.2 City of Niagara Falls

The total parks and recreation area in the City of Niagara Falls is 842.88 acres (City of Niagara Falls Recreation Department, 1989).

Two recreational areas are located in close proximity to the Love Canal EDA. Griffon Park has been closed for the past two years due to chemical contamination discovered at the park originating from the immediately adjacent 102nd Street landfill. No time frame has been set for reopening of the park or two ball diamonds adjoining the park. Griffon Park contains a number of boat launches and docks which are the only features in the park that are still operational for public use.

The 91st Street Recreation area contains two softball diamonds and a pool. The park is heavily used by residents.

There are also two softball diamonds located in the vicinity of 93rd Street near the Love Canal EDA.

3.7.7 Utilities

The existing water and sewer systems for the City of Niagara Falls and the Town of Wheatfield located in the Love Canal EDA are graphically depicted on Figure 24: SANITARY SEWER SYSTEM-LOVE CANAL EDA, Figure 25: EXISTING WATER SUPPLY- LOVE CANAL EDA *and Figure 26: EXISTING STORMWATER SYSTEM.*

3.7.7.1 Town of Wheatfield

The Town of Wheatfield maintains water and sewer service for the portion of 102nd Street in the Town and all of 103rd Street.

Electric service is provided by Niagara Mohawk Power Corporation. Gas service is provided by National Fuel Gas.

3.7.7.2 City of Niagara Falls

The City of Niagara Falls maintains water and sewer service to the Love Canal EDA.

Electric service is provided by Niagara Mohawk Power Corporation. Gas service is provided by National Fuel Gas.

3.7.7.3 System Infrastructure

3.7.7.3.1 Water System

The water system throughout the EDA is serviced with 8" pipe with the exception of Greenwald Avenue (to Colvin Boulevard), 96th Street, 101st Street and 102nd Street which are serviced with 6" pipe.

3.7.7.3.2 Sanitary Sewer System

The sanitary sewer system throughout the EDA is predominantly serviced with 10" and 8" pipe with the exception of Colvin Boulevard and 93rd Street from Colvin to the creek which is serviced by 15" pipe.

3.7.7.3.3 Storm Sewer System

The storm sewer system throughout the EDA is adequately serviced. Modifications/uprading of the system may be need to be re-evaluated to adequately service new light industrial/office park uses in Sub-Areas 2 and 3.

3.7.8 Library Facilities

3.7.8.1 Town of Wheatfield

The Town of Wheatfield does not possess its own public library. The Town contracts with the Sanborn-Pekin Library for services.

3.7.8.2 City of Niagara Falls

The City of Niagara Falls is serviced by two public library facilities; the main branch and a satellite office. The main branch is located at 1425 Main Street, Niagara Falls, NY. The satellite office is located on the corner of 87th Street and Buffalo Avenue, also in Niagara Falls.

3.7.9 Postal Services

3.7.9.1 Town of Wheatfield

There are no postal facilities specifically servicing the Town of Wheatfield. The Town is serviced by United States Postal facilities located in the City of North Tonawanda, Niagara Falls, Sanborn and Lockport (Town of Wheatfield Town Clerk 1989).

3.7.9.2 City of Niagara Falls

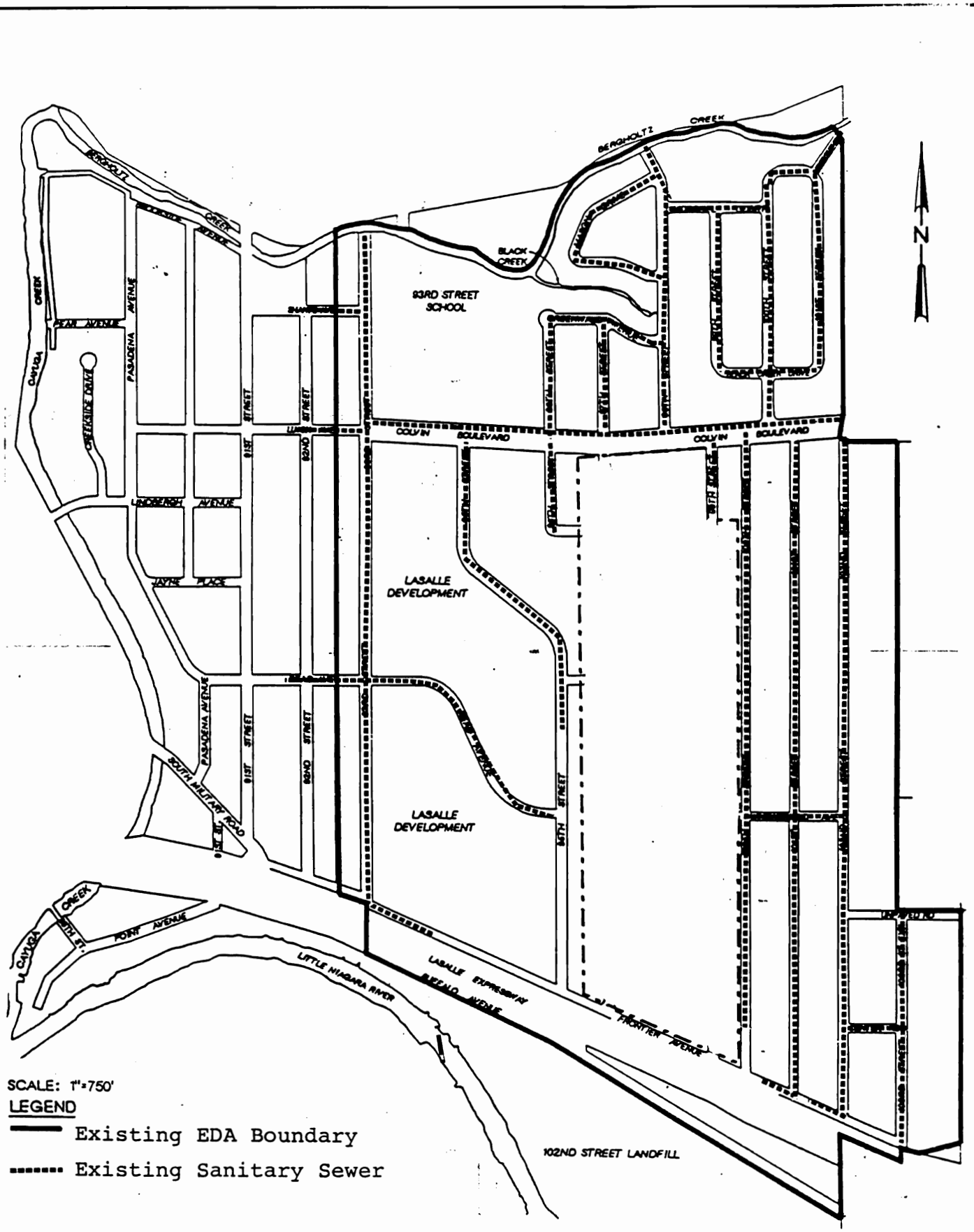
The City of Niagara Falls is serviced by six USPS substations located at 615 Main Street, South Avenue and Tenth Street, 300 Third Street, Military Road and Pine Avenue, 2020 Pine Avenue and Novena Building, Niagara University (New York Telephone Book, 1988-89).

3.7.10 Tax Revenues

3.7.10.1 Town of Wheatfield

The tax rate for the Town of Wheatfield for homestead property is $29 to $31 per $1000, depending on whether or not the area is sewered. The tax rate for non-homestead property is $39.63 per $1000.

The Town of Wheatfield Town Assessor had no technical or statistical data to unequivocally state the affect upon the Town from the loss of tax dollars associated with the Love Canal.

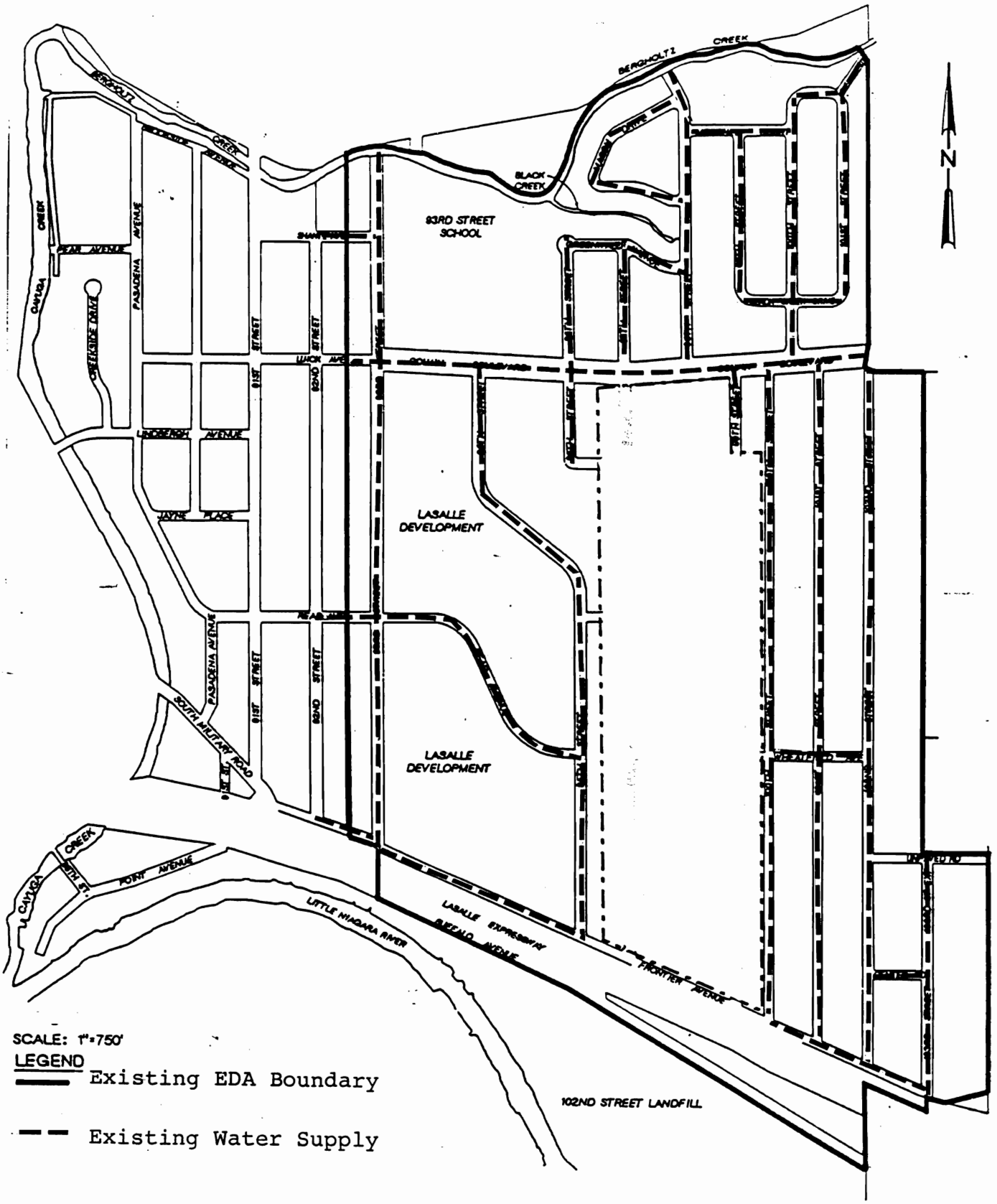


LOVE CANAL AREA MASTER PLAN

FIGURE 24: Sanitary Sewer System, Love Canal EDA

Source: Town of Wheatfield and City of Niagara Falls Utilities Maps and Environmental Monitoring Report, USEPA 1982

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BRISTOL, LITYNSKI, WOJCIK, P.C.
LANDSCAPE ARCHITECTS, ARCHITECTS AND PLANNERS



LOVE CANAL AREA MASTER PLAN

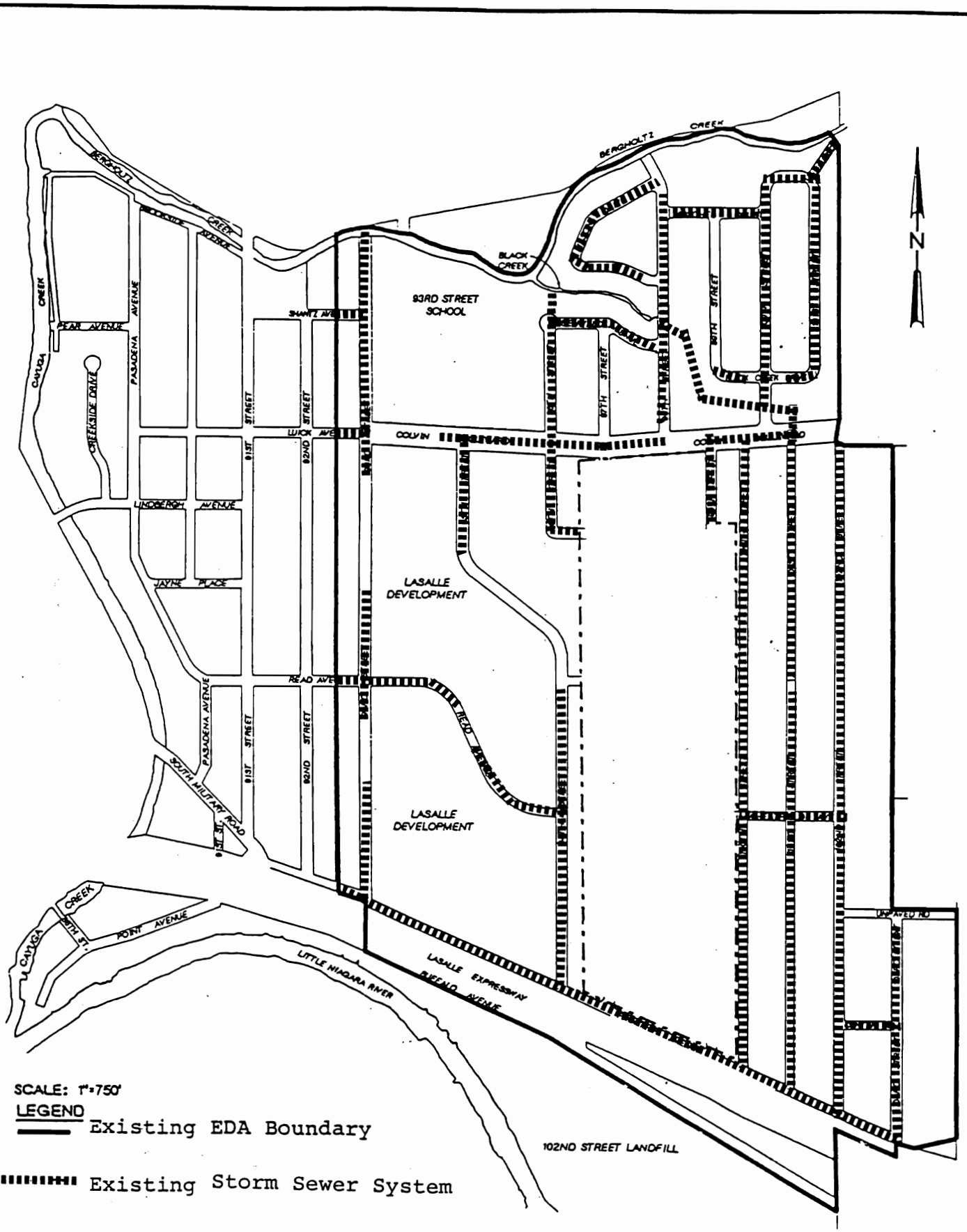
FIGURE 25: Existing Water Supply System, Love Canal EDA

Source: Town of Wheatfield and City of Niagara Falls Utilities Maps.

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LOVE CANAL AREA MASTER PLAN

FIGURE 26: Existing Storm Sewer System, Love Canal EDA

Source: Town of Wheatfield and City of Niagara Falls Utilities Maps.

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LANDSCAPE ARCHITECTS, ARCHITECTS AND PLANNERS

3.7.10.2 City of Niagara Falls

The tax rate for the City of Niagara Falls for homestead property is $39.42 per $1000 which includes City, County and school taxes. The tax rate for non-homestead property (commercial and vacant land) is $70.94 per $1000.

The impact upon the City of Niagara Falls tax base has been significant as a result of the loss of tax dollars from real property in the Love Canal EDA. Total assessed valuation of real property exempt from taxes is approximately $8 million (Penali, City of Niagara Falls Tax Assessor 1989). However, during 1979, 1980 and 1981 taxes were figured on fractional assessments. From 1982 to the present, taxes have been figured on full assessed value. If full assessment was used for the entire ten years (1979- 1989) the figure would probably be closer to $20 million (Mr. Penali, City of Niagara Falls Tax Assessor, 1989). The total tax base for the City equals approximately $900 million (City of Niagara Falls Tax Assessor, 1989).

Existing residents at the Love Canal receive a 25% reduction in assessed values. Taxes are then figured on the reduced assessed value as per the New York State Real Property Tax Law (City of Niagara Falls Tax Assessor, 1989).

3.8 Demography

3.8.1 Town of Wheatfield

3.8.1.1 Population

The 1980 census reinforced the general finding that population growth has slowed or declined in the Northeastern United States. The Town of Wheatfield, which had been expected to show modest growth by 1980 according to the Erie-Niagara Counties Regional Planning Board projections, actually declined slightly. The population of the Town of Wheatfield in 1970 was 9722. In 1980 the population was 9609 (Town of Wheatfield Comprehensive Plan Update, 1980). The most recent population figures (1986) show a population of 9480 for the Town (Community Development Office, City of Niagara Falls), thereby substantiating a further decline since the 1980 census. In general, the census showed that while population declined, the number of households increased reflecting the general trend toward smaller families (Town of Wheatfield Comprehensive Plan Update, 1980).

A variety of population projections have been made for the Town for the year 2000. These range from 7856 to 12953. The variation of these projections and the uncertainty of the

effects of new sewers on the area along with economic conditions at the time of printing of the update made it difficult to accurately project the land use requirements of the Town over the next twenty years (Town of Wheatfield Comprehensive Plan Update, 1980).

3.8.1.2 Labor Force

The labor force in the Town of Wheatfield was 2115 in 1980 and is projected to increase to 2138 by the year 2000 (Town of Wheatfield Comprehensive Master Plan Update, 1980). The 1980 Update also projects that 6500 people will work in the Town of Wheatfield by the year 2000 (Town of Wheatfield Comprehensive Master Plan Update, 1980).

3.8.2 City of Niagara Falls

3.8.2.1 Population

Between 1980 and 1986 the population of the City of Niagara Falls has decreased from 71384 to 64550, a loss of 6834 persons (City of Niagara Falls Community Development Office, 1989). Examination of migration trends between 1970 and 1980 indicates that virtually every age group has lost population. Population loss has been greatest in the 15-19 and 20-24 age groups (City of Niagara Falls Housing Assistance Plan 1989). Migration patterns also suggest that those who remain in the City are more likely to be elderly (or near retirement) and minority residents (City of Niagara Falls Housing Assistance Plan, 1989).

Birth records show a rapid increase of the non-white population. Of the 1020 live births that took place in the City of Niagara Falls, 249 or almost one-quarter were non-white, despite the fact that in 1980, only 14.5% of the total population was minority (City of Niagara Falls Housing Assistance Plan 1989). Similarly, as of 1985, persons 60 and over make up about 25% of the total population, and are projected to increase to 28% by 1990 (City of Niagara Falls Housing Assistance Plan, 1989).

3.8.2.2 Housing Characteristics

Between the time of the 1980 census and October 1988, the City of Niagara Falls demolished 938 units of housing and added 311 new units to the remaining housing stock. Of the 938, 316 were in the Love Canal Area. Some were boarded up or burned out, but many were sound at the time of demolition (City of Niagara Falls Housing Assistance Plan, 1989). The

units within the Love Canal EDA required demolition for safety and health reasons.

Given the City's declining population, it is not unreasonable to think that some marginal units may have been withdrawn from the market or in some cases, converted. For example, many third floor apartments are no longer rented for lack of market. This notwithstanding, the City has approximately 3000 vacant housing units. Since population trends are expected to continue with little change, this figure may well grow (City Niagara Falls Housing Assistance Plan 1989).

Even though statistics document a significant number of vacant housing units in the City of Niagara Falls, the Love Canal Area Revitalization Agency (LCARA) has received approximately 190 inquiries to date for information regarding availability of Love Canal housing units and expected time frame for occupancy. These inquiries have come from both former residents and other interested parties.

The LaSalle neighborhood which borders the Love Canal EDA does not reflect a need for additional housing units. Due to this shortage, it is expected that homes within the Love Canal EDA will be placed on the market and sold within an average selling time of 60 days (Girisole, 1989).

3.8.3 Housing and Commercial Market Data

3.8.3.1 Housing Market Data Analysis

Girasole Appraisal Company was retained by LCARA to conduct a macro level analysis and investigation of real estate valuation of the 253 unoccupied homes located in the Black Creek Village to the north of Colvin Boulevard and along 93rd Street in the Love Canal Revitalization area. The following housing market data analysis is premised upon the Girisole Report and is provided in full in Appendix D.

The Girasole Report states that the real estate market in the Niagara Falls region could absorb 20 to 25 housing units per year without adversely impacting the overall housing market in terms of sales prices and length of time on the market. Girasole Appraisal Company has not included in its valuation analysis the houses located in Sub-areas 2 and 3. However, the market absorption rate analysis is appropriate for determining overall absorption of Love Canal residential properties. Many of the houses in this area have been vacant for approximately 9 years and have experienced significant deterioration *relative to the properties located in EDA Sub-Areas 4, 5, 6 and 7.* Very little maintenance has been provided to these homes other than cutting the lawns and

undertaking minimal repairs during this period of time.

Given this reality, the houses in sub-areas 2 and 3 would most likely remain vacant for another 10 to 12 years due to a phased selling process to avoid disruption of the housing market. As a consequence, it has been determined that the houses in Sub-areas 2 and 3 should be demolished while active marketing efforts proceed in the Black Creek Village and 93rd Street areas.

An inventory of the 253 LCARA-owned homes in the Black Creek Village and 93rd Street areas has identified 206 ranch style, 18 cape cod, 25 two-story and 4 split level housing structures.

The ranch style homes range anywhere from 960 square feet to 1450 square feet of living space. Cape Cod style homes include some under 1000 square feet with the majority ranging from 1250 to 1470 square feet. Two story homes include several under 1200 square feet but the majority are from 1201 to 2050 square feet. Split level homes include one under and three over 1500 square feet.

A major component of the appraiser's study was to determine the highest and best use of the properties in the Love Canal EDA. The appraiser determined that for the Black Creek Village and 93rd Street areas, "the most feasible use would be for the continued use as a residential neighborhood."

3.8.3.1.1 Valuation Process

The appraiser's main objective was to provide general valuation ranges of the subject properties. Ten categories of homes were identified by square foot for the four styles.

The process by which value was determined included a number of steps. The first was to review appraisal reports and other data available at the LCARA office to assemble a complete list of properties by categories.

After the physical data of the subject properties was ascertained, comparable sales of similiar style homes including ranches, cape cods, two stories and split levels in the LaSalle area were investigated.

The second step of the analysis involved determining the various categories of the subject properties to be analyzed. The ten square footage categories selected were based upon the appraiser's knowledge of the general market.

An analysis of the various style homes was made depending on size. The subject properties were then compared on an overall basis to sales in the general LaSalle area. Seventy-eight sales were investigated which included 27 ranches, 27 capes, 22 two-story homes and 4 split levels.

The average sale price per square foot, including land, in LaSalle area ranch type homes ranges from $40.69 per square foot to $43.19 per square foot. Cape Cod style homes range from $36.19 per square foot to $47.69 per square foot. Two-story homes are somewhat less averaging $30.30 per square foot to $35.89 per square foot. These averages are slightly below other towns in the surrounding region including the Town of Wheatfield where average sale prices are in a range of approximately $50 per square foot.

Based upon the above ranges, value conclusions can be determined for the Love Canal properties. For ranch style homes from 960 square feet to 1454 square feet, values range from $45,000 to $58,000. For cape cod style homes from 792 square feet to 1470 square feet, values range from $35,000 to $56,500. For two story homes from 864 square feet to 2050 square feet, values range from $30,000 to $70,000. For split level homes from 1632 square feet to 1500 square feet, values range from $47,000 to $65,000.

3.8.3.1.2 Absorption Analysis

In order to estimate the potential absorption rate of the 253 homes located in the Black Creek Village area and along 93rd Street, information was obtained from the Niagara Falls City Assessor's Office, the Niagara Falls Area Board of Realtors and various town building inspection offices as well as discussions with leading realtors and city and town officials.

Impact of Placing All Homes On the Market Simultaneously

It has been determined that to put all 253 homes on the market at one time "would be disasterous, not only from a marketing viewpoint but also it would have a negative effect on the real estate market in the LaSalle area and in the entire City of Niagara Falls.

The market in the City is relatively small by comparison to other towns since not as many properties change hands. Another factor impacting the market in the City of Niagara Falls is that the population of the area has diminished since 1980, as documented in Master Plan Section 4.8, entitled Demography, which will continue to affect the real estate market in the area in the future.

It has been determined *by the LCARA Long Range Planning Committee that* that *50* to *70* units could be placed on the market per year without adversely impacting overall sales prices and length of time on the market. Given the pool of +/- 253 homes in the Black Creek Village and 93rd Street areas, an absorption period of *3 to 10* years can be expected.

More detailed information regarding the impact of placing more homes from the Love Canal EDA for sale than the market can bear is provided in the section below entitled "Multiple Listing Data."

Residential Building Permit Analysis

A review of building permits in the immediate area shows that the City of Niagara Falls has very few new single family homes under construction due primarily to a lack of land within the City limits. Two permits have been issued in 1989. The number of building permits issued in the Town of Wheatfield to date has totalled 138 in 1989, an increase from 71 in 1986 (Gerisole, 1989).

Multiple Listing Data

Multiple listing data obtained from the Niagara Falls Area Board of Realtors shows that in 1986, there were 390 sales through the system which increased to 885 in 1987 and 911 in 1988. For six months of 1989 there were 487 sales which is approximately 1/2 of what last year's total was and based on the market, around 900 should be the number for this year (Gerisole 1989). The LaSalle Area has had an increase in sales as well. In 1986 there were 74 sales in the entire LaSalle Area according to multiple listing data which increased to 187 sales in 1987 and to a high of 189 in 1988. For six months in 1989 there were 83 sales and potentially, last year's total could be reached provided there is a brisk last half (Girisole 1989).

Sales in LaSalle Area and in the Multiple Listing System, generally, have occurred more rapidly basis with fewer average days on the market. Systemwide, average days on the market was 114 which decreased to 80 days in 1988 and about the same through six months of 1989. In the LaSalle Area, the change is more dramatic. In 1986 average days on the market was 108 which was reduced to an average 86 days in 1987, 68 days average in 1988 and for six months in 1989, the average days on the market was 61 (Girisole 1989).

Overall average sales prices of homes through the multiple listing system increased over the four year period. The 1986 average sale price through the ML system was $46,017 which increased to $49,273 in 1987. There was also a dramatic increase in 1988 where the average sale price was $52,737. For 1989 through the end of June, the average sale price was $51,844. From 1986 to 1987, there was a 7% increase in sale prices. For the LaSalle Area, the average sale price for 1986 was $35,805 which was increased to $38,600 in 1987. This represents an approximate 8% increase. For 1988 the sale prices increased to an average of $42,304 which represents a 9.5% increase over 1987 (Girisole 1989).

Absorption Capacity

Discussions with the President of the Niagara Falls Area Board of Realtors, Mrs. Phyllis Argy-Fester, has revealed that there is a shortage of homes in the LaSalle Area. According to Mrs. Fester, 20 to 25 more homes per year could be accommodated from the Love Canal EDA without disturbing the market in the LaSalle Area. A staged program was discussed whereby 5 to 7 homes would be on the market at any one time with a similiar number being rehabbed come to sale as others are sold. A staged program is vital since 250 homes represent almost 30 percent of the annual sales through the entire Multiple Listing System. This number of homes would represent a year and a half of sales in the LaSalle neighborhood (Gerisole 1989). Homes should be priced according to the market and not above or below, so again not to disturb the current market in the LaSalle Area and the rest of the City. The immediate area of 90th Street to Pasadena Avenue, Frontier to Cayuga Drive, would be most affected by the homes being put on the market from the Love Canal EDA.

An important factor which would directly influence the number of homes sold in the Love Canal EDA would be realtor marketing. An effective realtor marketing program would entail listing all parcels for sale from the Love Canal area in the current multiple listing book. All brokers would then have an opportunity to sell the homes on a first come first served basis. This approach would be more desirable than if the LCARA embarked upon its own marketing program in competition with the realtors.

Mortgage Rate Analysis

Mortgage interest rates according to local lenders are at a range of 10 percent for 30 years with 4.25 points and 9.75 percent with 3.25 points for a 15 year mortgage. Government rates are similiar to local lenders. It is assumed that properties will continue to be marketable and money still available as long as rates stay in the 9.75 to 10 percent range (Gerisole 1989).

Marketing Conclusions

Approximately *50 to 70* homes could be absorbed from the Love Canal EDA without adverse impact to the surrounding LaSalle neighborhood. Given the number of houses available for resale in the Black Creek Village and 93rd Street areas (+/- 253) and the number of houses that can be effectively absorbed into the market, an absorption period of approximately *3 to 10* years can be expected. This absorption period could possibly be reduced depending upon market conditions in the region.

Housing structures in the area south of Colvin Boulevard (Sub-areas 2 and 3) have deteriorated badly since purchase by LCARA 10+ years ago. Since there would be an absorption period of *3 to 10* more years, it can be assumed that these units could not withstand another decade of standing vacant. It is recommended that these units be demolished.

Homes in the Black Creek Village and 93rd Street Areas are saleable as starter homes for younger couples or retirement homes for older people. There are also other properties in the neighborhood that could be sold to families and offer decent affordable living. In today's real estate market, to find homes in the $40,000 to $60,000 price range is difficult and this is the market nitch that the Love Canal homes would fill.

It would appear that approximately 60 days would be the average marketing time based on ML statistics. Too many homes on the market at one time would increase the average days on the market and lower the average sale price.

Values would have to be updated yearly to reflect current market conditions and seasonal market changes. Spring and fall are generally busy times in the local Niagara Falls market and Love Canal EDA sales activity, should be timed to coincide with these periods.

3.8.3.2 Commercial Market Data

3.8.3.2.1 Building Permit Analysis

An analysis of building permit data for industrial and commercial construction for the years 1984-1988 for the City of Niagara Falls, Town of Wheatfield, Town of Niagara and the Town of Lewiston depict strong activity when compared to the number of residential building permits issued. This trend substantiates a need for light industrial/ office and commercial space in the future.

City of Niagara Falls

The number of commercial/industrial permits issued in the City of Niagara Falls during the years 1984 to 1988 greatly outpaces residential permit issuances. The following identifies the number of permits issued for residential and commercial activities in the City. Building permit issuance statistics clearly identify a need for and/or depict a growing commercial/industrial base in the City, while at the same time highlighting the need for more land for expansion of such activities which is reflected in the overall decline in the number of permits issued since 1984. These statistics are provided below (Buffalo Area Chamber of Commerce Year End Reports, 1984-89):

Year	Residential	Commercial/Industrial
1984	12	269
1985	20	151
1986	14	276
1987	4	101
1988	0	48
1989	*2*	*312*
Total	52	1157

Town of Wheatfield

Statistics for the Town of Wheatfield do not depict a similiar scenario. The proportion of residential and commercial/industrial permit issuances is about equal for the same time period. This positively reinforces the need for new commercial/industrial as well as residential development at the Love Canal EDA. These statistics for permit issuances are provided below (Buffalo Area Chamber of Commerce Year End Reports, 1984-89):

Year	Residential	Commercial/Industrial
1984	41	41
1985	49	46
1986	84	10
1987	44	37
1988	22	6
1989	*91*	*55*
Total	331	195

Town of Niagara

The Town of Niagara is located immediately adjacent to the City of Niagara Falls to the west. The proportion of commercial/industrial building permit issuances to residential building permit issuances is similiar to the City of Niagara Falls, depicting a much higher permit issuance rate for commercial/industrial enterprises. These statistics are provided below (Buffalo Area Chamber of Commerce Year End Reports, 1984-88):

Year	Residential	Commercial/Industrial
1984	16	167
1985	17	139
1986	12	134
1987	13	116
1988	14	224
1989	*15*	*217*
Total	145	997

Town of Lewiston

The Town of Lewiston is located immediately north of the Town of Niagara (which includes the City of Niagara Falls). The Town of Lewiston is similiar to the Town of Wheatfield in terms of Commercial/Industrial building permit issuances. The proportion of commercial/industrial permits to residential permits is about even for the time period selected for this analysis. Statistics are provided below (Buffalo Area Chamber of Commerce Year End Reports, 1984-89):

Year	Residential	Commercial/Industrial
1984	27	69
1985	14	58
1986	28	57
1987	6	11
1988	21	25
1989	*N/A*	*N/A*
Total	96	220

Permit Summary

Based upon commercial/industrial permit issuance data, the trendin the region is for further expansion of the commercial/industrial base. Permit issuances for commercial/industrial construction in the City of Niagara Falls and Town of Niagara has outpaced the rate of issuance for residential permits. Whereas, the Town of Wheatfield and Town of Lewiston approximately equals residential permit issuances.

Industrial/Commercial Trends

A major commercial, industrial and retail development adjacent to the Love Canal EDA is The Summit Park Mall and Summit Industrial Park, owned and operated by the Summit Development Corporation. Representatives of the Summit Development Corporation have stated that by the time the Love Canal EDA is ready for such development, the Summit Industrial Park should be completely filled, providing a need for new light industrial, commercial and office space. Presently, the City of Niagara Falls has very little, if any, vacant Class "A" industrial office space and an immediate need exists for further development of this type of facilities (Prachtal 1989).

Another factor which will play a significant role in the demand for industrial office and commercial space in the Love Canal EDA is the immediate impact of the Free Trade Agreement between the United States and Canada. Representatives of the Summit Development Corporation have stated that the agency receives inquiries from Canadian firms almost daily (Prachtal 1989).

3.9 Cultural Characteristics

3.9.1 Visual Resources

3.9.1.1 Existing Land Use/Site Description

Presently, the Love Canal area is *predominantly* vacant land with approximately 60 active residential units *scattered throughout*. Most houses are boarded up and are maintained to the extent possible. The Love Canal Area Revitalization Agency contracts for groundskeepers who mow the lawns and do general upkeep.

The central portion of the EDA contains the canal where chemical contaminants are buried and former ring I and II homes. The area is presently a well manicured grassy space surrounded by with an eight foot chain link fence and posted with hazardous waste signs.

The western portion of the site is predominantly vacant land which at one time was the location of two HUD sponsored housing projects. Only the vacant structures associated with the former elderly housing complex remain.

3.9.1.2 Surrounding Visual Environment

Surrounding the site to the west and north beyond the creeks are vibrant residential communities. To the east bounded by Williams Road, 102nd Street and the LaSalle Expressway is a greenspace area. Commercial strip development is occurring along the eastern side of Williams Road. To the south is the LaSalle Expressway, *Griffon Park, the 102nd Street Landfill* and the Niagara River.

3.9.2 Archaeological and Historic Resources

3.9.2.1 Archaeological Resources

A file search has been conducted by the staff of the New York State Museum, Prehistoric Site File Unit for locations and descriptions of prehistoric archaeological sites within and surrounding the Love Canal EDA. An average probability exists of producing prehistoric archaeological data (NYS Museum, 1989).

3.9.2.2 Historic Resources

The New York State Office of Parks, Recreation and Historic Preservation cannot identify any historic buildings or structures at the Love Canal EDA since no professional survey of the area has ever been conducted. The NYSOPRHP suggests that all buildings or structures more than fifty years old within or adjacent to the project area be identified by the project sponsor and evaluated by the NYSOPRHP for historic and/or architectural significance (NYSOPRHP 1989).

LCARA has stated that it will conduct historic surveys for those properties which are 50 years and older to determine any possible historic significance.

3.9.3 Noise

3.9.3.1 Traffic Generated Noise

Traffic generated noise on-site presently is largely due to noise associated with site remediation construction and other equipment as well as from existing residential automobile usage and from those passing through the site. Traffic generated noise also originates from motorists utilizing the LaSalle Expressway south of the site.

3.9.3.2 Site-Generated Noise

Site generated noise is largely derived from existing residents and current remediation efforts underway at the site.

4.0 ENVIRONMENTAL IMPACTS

4.0 ENVIRONMENTAL IMPACTS

Environmental impact occurs every day by the normal daily actions of humans. When describing environmental impact, it is necessary to subcategorize relative to type (beneficial or adverse), significance (major or minor), duration (permanent or temporary), scope (local or regional) and reversibility. All impacts described herein are potential impacts. Although some impacts have a higher potential to occur than others, it is impossible to state that all the impacts discussed herein will occur.

The proposed action is the acceptance of the Love Canal Area Master Plan by LCARA which will guide future development of the Love Canal EDA. Therefore, impacts identified below are the more germane impacts relating to acceptance of the Master Plan rather than the impacts relating to individual projects to be undertaken at the site in each of the individual sub-areas identified by the NYSDOH in its Decision on Habitability. More site-specific environmental review will be necessary as projects are proposed for each sub-area.

The following is a discussion of the environmental impacts which could result from the proposed action. The subsections identified below closely match those identified in Chapter *3.0*, Environmental Setting, in the Love Canal Area Master Plan which accompanies this DGEIS.

4.1 **Land**

4.1.1 Subsurface Geology

The bedrock in the vicinity of the Love Canal EDA ranges in depth from 20 to 45 feet (USEPA 1980). No penetration of the bedrock is expected from blasting or other excavation activities. Therefore, no adverse impacts to the bedrock underlying the site are expected from development activities resulting from acceptance and implementation of the Preferred Master Plan Alternative.

4.1.2 Surficial Geology

Surficial land disturbance will occur as a result of the acceptance and implementation of development activities at the Love Canal EDA, specifically in NYSDOH Sub-Areas 2,3,6 and 7 and the site of the former 93rd Street School. Impacts are briefly described below identified by Sub-area:

Sub-Areas 2 and 3

The Preferred Alternative identified in Chapter 7.0 of the attached Love Canal Area Master Plan envisions the demolition of existing homes in these areas due to the serious structural deterioration resulting from standing vacant for 10+ years with very minimal maintenance. Demolition activities will require ground disturbance and regrading after demolition is complete.

Subsequent disturbance could result from *remediation efforts in Sub-Areas 2 and 3 by NYSDEC.*

The extent and nature of land disturbance resulting from subsequent development after remediation of the area will be dependent upon the type and size of commercial/light industrial/office use attracted to the EDA. Further site specific environmental review will be necessary when a development alternative is selected for these areas.

Sub-Areas 4 and 5

The NYSDEC is presently testing for BHC's in Sub-Area 4. Appropriate remediation will be undertaken, if necessary. Nine houses will be impacted if the DEC determines that remediation is required.

Sub-Areas 6 and 7

This area of the Love Canal EDA has undergone significant land disturbance already as a result of the demolition of the HUD sponsored Housing Complex. Sub-areas 6 and 7 are presently undeveloped open space areas with the exception of the now vacated elderly housing complex. Further land disturbance will be dependent upon the type of medium-density housing selected for development at this site. Further site specific environmental review will be necessary when a development alternative is selected for this area.

93rd Street School

The 93rd Street School parcel is presently owned by the City of Niagara Falls City School District. The District has made a decision to reuse the facility as an instructional site. Impacts associated with the rehabilitation of the building will include disturbance of land at the site due to landscaping, rehabilitation of the building's exterior, placement of playground equipment and other associated activities.

Land disturbance will also occur as a result of planned remediation activities at the site. The full extent of remediation has been identified by the NYSDEC in its ROD.

4.1.3 Soils

The indigenous soils underlying the Love Canal Site are characteristic of those formed in lake-laid clays and silts, and is nearly level to gently sloping. It is deep and somewhat poorly drained to very poorly drained. The Love Canal EDA is located in the City of Niagara Falls and is highly developed with water, sewer and drainage outlet systems. These systems presently possess excess capacity to accommodate new residential development, as well as commercial/light industrial/office development at the site. As a result, no adverse impacts are expected in relation to the soils at the Love Canal EDA.

4.1.4 Topography

The Love Canal EDA is characterized with a generally level topography. Slopes of 0-10% cover 100% of the Love Canal EDA. As a result of the level topograhpy at the site, surface water (stormwater) *drainage* has been historically poor. Since the area is serviced by a storm water sewer system and is a highly urbanized area, any impacts due to flooding and drainage are considered minimal.

Portions of the northern half of the EDA are within the 100-year floodplain, as identified on maps prepared for the National Flood Insurance Program. The effective date of these Flood Insurance Rate maps is March 16, 1983.

Since the affected areas are already fully developed, there should be no impact on new development unless some demolition were to occur. In such a case, new structures would have to meet all applicable City of Niagara Falls Floodplain Ordinance regulations regarding construction in the floodplain.

Flood insurance is mandatory for federally insured mortgages on homes in the floodway or the 100 year floodplain. Homes which existed prior to the date of the first effective flood insurance map receive a subsidized rate. A home in the floodplain may be improved up to 50 percent of its market value without change in its status. Beyond 50 percent improvement, a home would have to meet current regulations. This would mean that the lowest floor (e.g., a basement floor) would have to be above the flood level or basement openings closed off in a watertight manner.

It should be noted that the upstream reaches of the Bergholtz Creek are presently being surveyed as part of a flood plain reassessment effort requested by the Town of Wheatfield. Officials in both the Town of Wheatfield and the City of Niagara Falls are of the opinion that the mapped flood plain area is larger than that which would actually be impacted by the 100-year flood. It is also possible that the Bergholtz Creek remediation efforts, now completed, may have improved the flow characteristics of the creek to a point that the flood plain boundaries would be altered (LCARA, J. Carr, 1989).

Therefore, no adverse impacts are expected from acceptance and implementation of the Preferred Alternative in relation to the site's topography.

4.2 Water Resources

4.2.1 Groundwater

All proposals set forth in the Preferred Alternative will utilize the City of Niagara Falls Municipal Water and Sewer Systems. No direct utilization of the groundwater beneath the Love Canal EDA will occur. Furthermore, as a result of groundwater testing, the first signs of groundwater was located 10 to 16 feet in the horizontal bedding planes. No adverse impacts to groundwater are expected as a result of the acceptance and implementation of various components of the Preferred Master Plan. Impacts to groundwater from building and structural design may need closer examination when site specific-development proposals are presented for the area.

4.2.2 Surface Water

Water bodies located immediately adjacent to the Love Canal EDA are the Black and Bergholtz Creeks. The preferred use identified for the area adjacent to the creeks (NYSDOH Sub-areas 4 and 5) is for continued single- family residential housing. Since the land use is not to change in this area, no adverse impacts are expected as a result of rehabitation efforts.

There is also an approximate 25-acre NYSDEC-regulated Class II wetland located in the eastern portion of the EDA bordering the Town of Wheatfield and extending to Williams Road (Sub-areas 2 and 3). The Preferred Alternative has identified a 100-foot buffer around the entire wetland *as per NYSDEC regulations* in order to ensure its continued viability as a habitat and wildlife area. Therefore, little or no impact is expected from development activities at the Love Canal site.

4.3 Air Resources

Minor impacts to air quality are expected from acceptance and implementation of the Preferred Alternative. *Remaining soil remediation activities in EDA Zones 2 and 3 could result in dust propagation. Dust control/air monitoring during remedial activities is the responsibility of NYSDEC.* The acceptance and implementation of the proposed action will have temporary (construction phase) and permanent (occupancy phase) impacts on air quality in the Love Canal EDA. Temporary impacts will arise from use of heavy equipment on-site and increased vehicular traffic from construction workers commuting to the site. Diesel-fueled construction equipment will release carbon monoxide and particulates, as well as some hydrocarbons and nitrogen oxides. Dust will be generated from grading and movement of earth resulting from the demolition of deteriorated housing stock, as well as new construction at the site. Both the temporary and permanent adverse impacts on air quality are minor and insignificant.

As various phases of the Preferred Alternative are implemented, increases in carbon monoxide will be principally attributable to resident owned-vehicles travelling to and from the site, as well as employees of the planned commercial/light industrial/office park.

4.4 Terrestrial and Aquatic Ecology

The impacts associated with the acceptance and eventual implementation of the Preferred Alternative on the terrestrial and aquatic environment can be divided into temporary and permanent impacts.

The most significant temporary impacts are those that could result from the erosion potential to exposed soils. Construction activities will remove vegetative cover and topsoil. Erosion of the soil surface can lead to siltation and build-up in low-lying areas and aquatic environments. These low lying areas at the project site are the Black and Bergholtz Creeks and the state protected Class II wetland. More detailed impacts to the wetland are described in Section 4.4.3. Mitigation measures are identified in FGEIS Chapter 5.0.

Long-term impacts arise from two main sources, impacts that result from the construction of impervious surfaces and those that arise due to rehabitation of the Love Canal EDA.

4.4.1 Vegetation

Implementation of the Preferred Alternative will create impervious surfaces at the Love Canal EDA, which will result in the loss of vegetation. However, the impact associated with

loss of vegetation is considered slight since the Love Canal EDA is located in an urbanized environment and possesses extensive impervious area. Subsequent site- specific development should examine the impact to existing vegetation in each respective sub-area of the EDA.

Furthermore, the Love Canal EDA contains no rare endangered plants, although one species, the Sky-Blue Aster, was identified as possibly existing on the site. A plant survey was conducted and no trace of the Sky-Blue Aster was found. However, another protected species, the Closed Gentian, was discovered off-site, south of the Class II wetland and west of 103rd Street. No trace of the Closed Gentian could be identified within the boundaries of the Love Canal EDA as per correspondence from Ms. Pat Eckel of the Buffalo Museum of Science, and therefore, will not impact development activities at the Love Canal EDA.

4.4.2 Animal Species

At the present time, no significant animal species have been identified by the NYSDEC Significant Habitat Unit as occurring in the Love Canal EDA. The site as it presently exists is in an open space condition with the exception of Sub-areas 2 and 3 (designated for possible remediation and demolition of housing units), and EDA Sub-areas 4 and 5 (designated for rehabitation efforts). Impacts to wildlife associated with a typical urban neighborhood (e.g., birds, squirrels, etc.) will occur, in that these species will be displaced out of these areas due to selective tree cutting and vegetation clearing to accommodate planned development of commercial/light industrial/office park uses. These impacts should be further examined when future site-specific development is proposed at the Love Canal EDA in these particular sub- areas.

4.4.3 Wetlands

The approximate 25-acre wetland located along Williams Road could be impacted from activities proposed in the Preferred Alternative for Sub-areas 2 and 3 and from possible remediation of the site by the State of New York. The most significant potential temporary impacts to the wetland area are those that could result from the erosion of exposed soils. Exposed soils at the site would result from the removal and replacement of topsoil associated with remediation of the site, and demolition of existing homes, as well as the clearing and regrading of Sub-areas 2 and 3 in order to prepare the land for development.

Appropriate measures will be taken to mitigate the impact of exposed soils on the wetland and are described in DGEIS Chapter 5.0.

The level and extent of impact on the wetland after initial site preparation would largely depend upon the type of commercial/light industrial/office park activity to be developed immediately adjacent to the wetland area. These impacts would be examined in subsequent environmental reviews when site-specific development is proposed.

4.5 Transportation

This section is a discussion of the potential adverse impacts the Preferred Alternative may have on vehicular transportation.

4.5.1 Projected Traffic Volumes

This section of the DGEIS describes the projected traffic volumes for weekday, AM and PM Peak, Saturday and Sunday and Saturday and Sunday Peak hours. The projected trip generation is based on the number of dwelling units for single- family and multi-familiy housing and per employee for the light industrial, commercial and office park developments.

The distribution of traffic within the vicinity of the proposed development was made by the following assumptions:

1. The internal street system and access points to the development area are as shown on DGEIS Figure 22: LOCAL TRANSPORTATION SYSTEM, and discussed earlier in this report.

2. Ingress and egress from the site will approximate prior habitated patterns, with major travel routes along Colvin Boulevard, Frontier Avenue and Williams Road. Ingress and egress from industrial park activities would be directly on/from Williams Road, thereby avoiding residential areas.

3. Traffic flow will favor internal collector streets such as Colvin Boulevard and Frontier Avenue onto which all residential uses proposed in the Preferred Alternative would access.

4. Full buildout of the Preferred Alternative is assumed.

Projected traffic volumes for the Preferred Alternative are as follows, and are based upon information obtained from The Institute of Traffic Engineers, Traffic Generation, 4th Edition, 1989:

Total weekday	22205
AM Peak	2632
PM Peak	2494
Weekend	
Saturday	18334
Sunday	13886
Saturday Peak Hour	1676
Sunday Peak Hour	1360

4.5.2 Analysis of Impact to Traffic

4.5.2.1 Intersection Analysis

Peak hour periods represent the critical conditions of roadway traffic. The highest congestion points are typically the intersections of major streets. A significant indicator of the impact of proposed development related traffic on adjacent streets is the relative ability of the major intersections along Colvin Boulevard and Frontier Avenue to accommodate the additional traffic during the highest peak hour periods.

According to the City of Niagara Falls Engineer's Office, no problem intersections exist at the Love Canal EDA and no adverse impacts are expected.

4.5.3 Accident History

A review of accident data by the City of Niagara Falls City Engineer reveals a low accident rate for streets within the EDA.

4.6 Land Use and Zoning

4.6.1 Land Use

The primary land use impacts resulting from acceptance and implementation of the Preferred Alternative will be largely beneficial. A presently underutilized and/or vacant area (+/- 350 acres) of the City of Niagara Falls and Town of Wheatfield will be put into productive use once again.

The existence of the Love Canal EDA presents the City of Niagara Falls and the Town of Wheatfield with a unique opportunity for the development of a very large parcel of land in a City that is almost wholly built out to its corporate limits.

The Preferred Alternative proposes a change in land use for various sections of the Love Canal EDA, specifically Sub- areas 2 and 3. Commercial/light industrial/office uses are proposed for these sub-areas. Implementation of this development option proposed in the Preferred Alternative would involve demolition of existing housing units which are very deteriorated.

The adverse impact of this change in land use and eventual redevelopment relates to the existence of approximately 30 active residential units in Sub-areas 2 and 3. These residents chose not to be relocated during the height of the Love Canal emergency. Many have stated that do not desire to move out of their homes now, almost 11 years later. Care must be taken to develop alternatives which respect the rights of those residing in Sub-areas 2 and 3. Selected development alternatives for this area must ensure against any undue disruption of their daily lives.

The LCARA has accepted a preferred land use concept which proposes industrial/commercial use for areas 2 and 3 which are located east of the Love Canal Containment Area. Analysis of existing patterns of settlement show that the greatest number of remaining residents are located in the southern part of this area with smaller numbers in the north. Therefore, a phased development plan would begin in the north near Colvin Boulevard and proceed in a southerly direction.

LCARA has developed inducements designed to encourage remaining residents in Sub-Areas 2 and 3 to relocate to the habitable areas of the EDA. Offering inducements may reduce the number of persons who remain in areas 2 and 3. Other factors including but not limited to the NYSDEC proposed remediation of areas 2 and 3, job changes, age and health may further reduce the number of persons living in the area. These factors cannot be easily quantified. LCARA will continue to be sensitive to the needs and welfare of the remaining residents in Areas 2 and 3 as well as elsewhere in the EDA.

Sub-areas 4 and 5 will remain as single family residential areas and have been targeted for rehabitation efforts. Approximately 255 homes will be targeted for resale. No adverse impacts are expected, since this area was previously a single-family residential area. Also, a phased sale of these homes will occur to avoid adverse impact to the current real estate market.

Furthermore, a clarification to the Habitability Decision was prepared in June 1989 which suggested that "hot spots" of BHC's were the result of contaminated soil being used as fill material west of the intersection of Black Creek Drive and 100th Street and that additional sampling there should be carried out to determine whether contamination not identified

by previous sampling is present.

The NYSDEC will further investigate EDA Sub-Area 4 for BHC contamination. No significant findings are anticipated in Sub-Area 4. If remediation is required, nine properties may be impacted by such activity. These properties will not be sold until testing/remediation decisions are complete. No other limitations/impacts to rehabitation of the area are anticipated.

Sub-Areas 6 and 7 have been identified for medium density Planned Unit Development (PUD). Approximately 825 units of medium density residential housing could be developed at the site in conformance with the City of Niagara Falls Zoning Ordinance of 11 units per acre. Approximately 1780 residents will reside in these units.

The 93rd Street School has been identified for reuse as an educational facility by the City of Niagara Falls City School District. More detailed information is provided in FGEIS Section 4.7.1, entitled, "Educational Facilities."

As per correspondence provided in FGEIS Appendix S, from Mr. William Sado, Superintendent of the Niagara Falls City School District, to Mr. Michael O'Toole of the New York State Department of Environmental Conservation, the School District expresses its intent to reutilize the 93rd Street School as an educational facility. Reuse of the site as an educational facility will be contingent upon completion of planned remediation of the site by the NYSDEC as outlined in the Record of Decision (ROD).

The Love Canal Area Master Plan has identified the portion of the school site not to be utilized for instructional purposes as parkland/greenspace. A transfer of ownership of this portion of the property to the City of Niagara Falls could occur but is as yet unresolved and/or undecided. However, the final determination of ownership is of no consequence in use of the land identified in the Love Canal Area Master Plan or in present and subsequent environmental reviews.

Another issue is the impact of the containment area on proposed development activities at the EDA, as well as the impacts of development activities upon the containment area.

4.6.1.1 Impact of Containment Area on Development

The 65-acre containment area will remain as a green field. It is secured with an 8 foot chain link perimeter fence, thereby preventing direct casual access to the area. The containment area will serve as a buffer between other uses at the EDA.

4.6.1.2 Impact of Development on Containment Area

The Preferred Alternative recognizes the need for access to the leachate treatment facility and for conducting on- going remediation and testing activities. Also, people rehabitating and working at the Love Canal EDA will not have casual access to the containment area.

Furthermore, in order to prevent casual access to the containment area and to visually buffer the fence surrounding the containment area, a landscaped buffer will be placed around the perimeter fence, located outside the fence line with a minimum 100' width with the exception of the north and south ends. The width requirement will be negotiated for the north and south ends of the fenced area.

A planting plan will be prepared and will include a mixture of deciduous and evergreen trees and shrubs. The planting theme will serve to create a naturalized setting, which provides a visually appealing view of the containment area. Plants will be located outside of the fence line and will be maintained by LCARA.

4.6.2 Zoning

Existing zoning as set forth in the City of Niagara Falls Zoning Ordinance and the Town of Wheatfield Zoning Ordinance is compatible with proposed uses as identified in the Preferred Alternative, with the exception of Sub-areas 2 and 3. Sub-areas 4-5 and 6-7 are situated in zones R-1 and R-1- G, respectively. Sub-areas 2-3 are situated in R-1-A. However, before any commercial, light industrial or office park facilities are constructed in Sub-areas 2 and 3, a zoning reclassification is necessary in both the City of Niagara Falls and the Town of Wheatfield. Sub-area 1 is classified as R-1.

The portion of Sub-areas 2 and 3 located in the Town of Wheatfield is presently zoned R-2. The portion located in the City of Niagara Falls is R-1-A. Each of these should be reclassified to accommodate commercial, light industrial and office development.

4.7 Community Services

4.7.1 Educational Facilities

The Love Canal EDA is serviced by two school districts; the Niagara-Wheatfield School District and the Niagara Falls City School District.

Niagara-Wheatfield Central School District

The area of the Love Canal EDA serviced by the Niagara-Wheatfield Central School District includes 102nd Street (odd numbers only) and 103rd Street (numbers 413-497). Students living in these areas attend Errick Road Elementary, serving grades K-5; Edward Town Middle School, serving grades 6-9; and Niagara Wheatfield Senior High School, serving grades 10-12.

The Errick Road Elementary School is presently overcrowded. The district is planning a 24-room expansion at the school (Radin, 1989). Twelve rooms are to be reserved for the local BOCES and 12 are to be for the school district. Generally, any increase in school children as a result of the rehabitation of the Love Canal will be absorbed sufficiently by the existing school system (Radin, 1989). Since no residential development is proposed in the Preferred Alternative for the Town of Wheatfield, no adverse impacts to the Niagara-Wheatfield School District are expected from redevelopment activities at the Love Canal EDA.

City of Niagara Falls School District

The section of the Love Canal EDA located within the City of Niagara Falls is served by the City School District.

Implementation of the Preferred Alternative is expected to generate 437 new students. Since no residential development is planned in the portion of the EDA located in the Town of Wheatfield, the increase in student population will impact solely the City of Niagara Falls. The spread of students across grades is as follows:

K-6	269
JHS	94
HS	74

These projections are calculated using generators taken from The New Practioner's Guide To Fiscal Impact Analysis by Robert W. Burchell, et. al.

The more important issue is the present underutilization of the City's elementary schools. The Administrator for Research, Planning and Evaluation for the City of Niagara Falls School District has stated that each of the City's elementary schools have excess capacity of 25 to 50 students, with the downtown schools being able to accommodate 75 to 100 more students *with the exception of the three smallest downtown schools of Hyde Park, Maple Avenue and H.J. Kafas. For planning purposes, these schools can be considered to be at capacity. Niagara Street and H.F. Abate could accomodate 75 to 100 more students.*

This directly impacts the reuse potential of the 93rd Street School as an elementary school.

4.7.2 Police Protection

According to Town of Wheatfield officials and the City of Niagara Falls Police Department, police protection for the Love Canal EDA is adequate and no adverse impacts are expected during or after redevelopment and rehabitation.

4.7.3 Fire Protection

According to City of Niagara Falls Fire Department and Town of Wheatfield officials, fire protection for the Love Canal EDA is adequate and no adverse impacts are expected during or after redevelopment and rehabitation of the EDA.

4.7.4 Health Care Facilities

Since the Love Canal EDA is located in a highly urbanized area, health care facilities are adequate to meet the needs of a redeveloped and rehabitated Love Canal.

4.7.5 Social Services

Implementation of the preferred alternative is not expected to have any adverse impact on any existing human or social service program and no additional services or capital improvements will be necessary to meet the needs of a redeveloped and rehabitated Love Canal.

4.7.6 Recreational Facilities

The impacts associated with acceptance and implementation of the Preferred Alternative upon the City and Town's recreational facilities are considered beneficial.

Since no residential units are proposed for the portion of the EDA located in the Town of Wheatfield, no new recreational facilities are required to service the EDA.

Two recreational areas exist in close proximity to the Love Canal EDA -- Griffon Park and the 91st Street Park. Griffon Park has been closed due to contamination from the adjacent 102nd Street landfill. The 91st Street Park is very heavily utilized by city residents.

Proposed park land areas identified in the Preferred Alternative *located at the 93rd Street School parcel and greenspace development in the EDA Sub-Areas 6 and 7 PUD Concept* will provide City residents with two additional park and open space areas, thereby alleviating the stress on the 91st Street recreation area and providing additional park space to accommodate the loss of Griffon Park.

4.7.7 Utilities

The Love Canal EDA is located within a highly urbanized area which contains extensive water and sewer system infrastructure. The Love Canal EDA is serviced by the City of Niagara Falls and The Town of Wheatfield. Uses as proposed in the Preferred Alternative are expected to generate the following loadings for both water and sewer.

Water

Single family residential	95,475	gallons per day (gpd)
Medium density residential	247,500	"
Office Development	15,345	"
Light Industrial	30,500	"
Commercial	2,325	"
Total GPD	391,145	

Sewer

Single-Family Residential	81,154	gallons per day
Medium Density Residential	210,375	"
Office Development	13,043	"
Industrial	25,925	"
Commercial	1,976	"
Total GPD	322,473	

The flow projections provided above are based upon gallons per day criteria for various institutional and commercial facilities uses as identified in NYSDEC's Standards For Waste Treatment Works, published in 1984.

Based upon these figures, no adverse impacts are expected as a result of rehabitation and redevelopment of the area. Mr. John Westendorf, Director of the City of Niagara Falls Water Department, has stated that there is sufficient capacity to handle expected gallon per day loadings as a result of the implementation of the Preferred Alternative. The City's water system has a total capacity of 40 million gallons per day. The system is presently pumping approximately 30 million gallons

per day, a 10 million gpd excess capacity. The City Sewer System has treatment capacity of 48 million gallons per day. The system is presently treating 40 million gallons per day, an 8 million gallon per day excess capacity.

Electric and gas service is adequate and is supplied by Niagara Mohawk Power Corporation and National Fuel Gas, respectively.

4.7.8 Library Facilities

Library facilities for the Town of Wheatfield and the City of Niagara Falls are adequate. No adverse impacts are expected due to the redevelopment and rehabitation of the Love Canal EDA.

4.7.9 Postal Services

Postal services for the Town of Wheatfield and the City of Niagara Falls are adequately provided by the United States Postal Service. The Town of Wheatfield is serviced by facilities located in the City of North Tonawanda, Niagara Falls, Sandborn and Lockport. The City of Niagara Falls is adequately serviced by six postal stations.

No adverse impacts are expected due to the redevelopment and rehabitation of the Love Canal EDA.

4.7.10 Tax Revenues

4.7.10.1 Town of Wheatfield

No technical or statistical data is available from the Town of Wheatfield Assessor's Office to unequivocally state the impact upon the Town from the loss of tax dollars due to the Love Canal emergency (Retzlaff, 1989). However, the Town Assessor has stated that since only a small portion of the EDA is located within the Town of Wheatfield, the probable impact upon the Town has been negligible (Retzlaff, 1989).

The Preferred Alternative envisions development of commercial, light industrial and office uses in the portion of the EDA under the jurisdiction of the Town of Wheatfield. Significant tax revenues will accrue to the Town of Wheatfield as a result of these developments. The following identifies the amount of estimated tax revenues to be created by development of each use proposed in the Preferred Alternative:

Use	Land	Building
Office	$119,000	$211,000
Light Industrial	N/A	N/A
Commercial	$6,940	$100,619
Total Revenues	$125,940	$311,619

The above are based upon a tax rate for non-homestead property of $39.63 per $1000, an equalization rate of 1.0002 and discussions with the Town of Wheatfield Tax Assessor.

4.7.10.2 City of Niagara Falls

Rehabitation and redevelopment of the Love Canal EDA will foster beneficial impacts to the City in the form of tax revenues generated. The Preferred Alternative envisions development of park land, single-family residential, medium density residential, office, light industrial and commercial activities in the portion of the EDA within the corporate limits of the City of Niagara Falls. Significant tax revenues will accrue to the City of Niagara Falls as a result of these developments. The following identifies the amount of estimated tax revenues to be created by each use proposed in the Preferred Alternative:

Use	Land	Building
Parkland	N/A	N/A
Single Family Residential	N/A	$461,075
Medium Density "	N/A	$773,524
Office Development	$9,184	$239,598
Light Industrial	$35,399	$1,543,482
Commercial	$ 2,738	$171,326
Total Revenues	$60,454	$3,189,005

The above estimates are based upon a non-homestead tax rate of $70.94 per $1000, an equalization rate of .9514, and discussions with the City of Niagara Falls Tax Assessor.

4.8 Demography

This section reviews the demographic impacts that could occur when the preferred alternative is fully implemented at the Love Canal EDA. The impacts are considered to be beneficial, not only to the City and Town of Wheatfield but to the region.

4.8.1 Population and Labor Force

Redevelopment of the Love Canal EDA will induce movement of people back into an area of the city and town which is now predominantly vacant and comprised of large open space areas. Movement of people back to the Love Canal EDA will foster beneficial economic, visual and social impacts to the city and town. Economic impacts relate to increased tax base. Beneficial visual impact relates to the reuse of a predominantly vacant +/-350 acre parcel. Social impacts refer to the enhanced vitality of the community and its beneficial impact on existing residents.

At full buildout, it is expected that approximately 874 persons will reside in the single-family units, 1782 persons will reside in the medium density residential, for a total of 2656 new residents. The proposed office, commercial and light industrial developments are expected to generate 1023 employees, 155 employees and 1220 employees, respectively, for a total of 2398 new employees.

The above population and employee calculations were based upon assumptions/multipliers taken from The New Practioner's Guide to Fiscal Impact Analysis by Burchell, et al and Office Development Handbook and Business and Industrial Park Development Handbook published by the Urban Land Institute.

4.8.2 Housing and Commercial Development

4.8.2.1 Housing Market Impacts

It has been determined that 253 homes in the Love Canal EDA (located in Sub-areas 4 and 5 and along the eastern side of 99th Street), would be available for rehabitation activity.

The Love Canal Area Revitalization Agency (LCARA) has received approximately 190 inquiries to date, for information regarding availability of housing units in the Love Canal EDA and expected time frame for occupancy. This interest has been generated by both former residents and other parties.

Furthermore, a need exists for housing units in the LaSalle neighborhood which borders the Love Canal EDA. Due to this shortage, it is expected that when homes within the Love Canal EDA are placed on the market, they will be sold within an average selling time of 60 days (Girasole, 1989).

The impact of placing all 253 LCARA owned housing units on the market simultaneously would create adverse market conditions on the overall Niagara Falls area real estate market. Doing so would adversely impact the average sale

price of houses in the city, as well as lengthen the average sale time. The immediate area surrounding the Love Canal EDA, particularly in the LaSalle Neighborhood, would be most affected by the homes being put on the market from the Love Canal EDA (Girasole, 1989).

4.8.2.2 Commercial Market Impacts

Development of commercial, light industrial and office activities at the Love Canal EDA would foster beneficial impacts not only for the City of Niagara Falls and the Town of Wheatfield, but for the entire region as well. Commercial, light industrial and office development is timely and appropriate based upon present development trends at the nearby Summit Industrial Park located on Williams Road in the Town of Wheatfield.

Representatives of the Summit Development Corporation have stated that, in addition to the anticipation of full occupancy, they receive inquiries about the availability of industrial office and commercial space from Canadian firms almost daily.

Development of commercial, light industrial and office activities at the Love Canal will create new jobs for the City and overall region as well as create a new image for the Love Canal and the city.

4.9 Cultural Characteristics

4.9.1 Visual Resources

The Love Canal EDA in its present condition is visually unappealing. It is *predominantly* vacant land with approximately *60* active residential units scattered throughout. Most houses are boarded up and are maintained to the extent possible. The EDA also is comprised of large parcels of vacant undeveloped open space areas.

Acceptance and implementation of the Preferred Alternative will significantly improve the visual appearance of the Love Canal EDA. Beneficial impacts are expected from the proposed action.

Implementation of the Preferred Alternative will greatly enhance the visual appearance of the EDA. Sub-area 1 is not designated for any development activity. It is to be landscaped to create a visual gateway to the City of Niagara Falls.

Sub-areas 2 and 3 will be improved in the short-term by demolition of unsightly, greatly deteriorated housing units. Long-term improvements include development of an attractive commercial, light industrial and office park environment. Neighborhood commercial activities will be focused along Colvin Boulevard.

Sub-areas 4 and 5 are designated for single-family residential development. The visual appearance of these sub- areas will be greatly improved as a consequence of active marketing efforts to rehabitate the area. Implementation of the Preferred Alternative will create a vibrant neighborhood similiar to that of the pre-Love Canal emergency.

Sub-areas 6 and 7 have been designated for medium density Planned Residential Development. The area is presently an unattractive, vacant parcel. Development as proposed in the Preferred Alternative will create a living community which will complement the adjacent residential neighborhood west of 93rd Street.

The containment area is presently surrounded with a visually unimproved 8 foot chain link fence. The area serves as a constant reminder of the events at the Love Canal. The Preferred Alternative proposes that a buffer be placed around the entire perimeter of the fenced area in order to create more visually appealing surroundings.

4.9.2 Archaeological and Historic Resources

4.9.2.1 Archaeological Resources

According to the New York State Museum's Prehistoric Site File Unit, an average probability exists of producing prehistoric archaeological data (NYS Museum, 1989). No adverse impacts are expected.

4.9.2.2 Historic Resources

The New York State Office of Parks, Recreation and Historic Preservation cannot identify any historic buildings or structures at the Love Canal EDA, since no professional survey has been conducted. *LCARA will condutct a field survey of structures 50 years and older prior to demolition to confirm historic significance in accordance with all applicable state and federal regulations.*

4.9.3 Noise

Noise impacts will be related to both construction and post construction activity. No adverse impacts are expected. Noise to be produced at the site will be associated with the day to day activities of a residential neighborhood within a typical urban context. Also, noise will be produced during implementation of various components of the Preferred Alternative such as the demolition of housing units in Sub-areas 2 and 3 and construction of new medium density Planned Residential Development in Sub-areas 6 and 7.

5.0 MITIGATION MEASURES TO MINIMIZE ENVIRONMENTAL IMPACTS

5.0 MITIGATION MEASURES TO MINIMIZE ENVIRONMENTAL IMPACTS

Mitigation can be defined as measures "...to reduce or minimize the adverse environmental impacts, or to produce beneficial impacts" (SEQR Handbook, B-34). The following sections describe the methods that will be used in order to mitigate the impacts associated with the acceptance and implementation of the Preferred Alternative at the Love Canal EDA.

5.1 Land

5.1.1 Subsurface Geology

Since no adverse impacts to subsurface geology were identified in FGEIS Chapter 4.0, no discussion of mitigation measures is necessary. The impacts measures associated with site-specific development should be examined when a development alternative is identified *to ensure conformance with thresholds and criteria identified in the FGEIS.*

5.1.2 Surficial Geology

Disturbance of the surficial geology will be adequately mitigated through adherence to accepted demolition and construction practices.

Furthermore, in relation to BHC testing in Sub-Area 4, if DEC determines remediation of the impacted properties is necessary, minor land disturbance will occur. However, the DEC is not anticipating significant findings of BHC's which will require remedial activities. Furthermore, the NYSDEC has not placed any limits on development in regard to BHC testing and possible remediation.

Also, the NYSDEC is committed to the remediation of Sub-Areas 2 and 3. Therfore, there are no impacts nor will mitigation measures be required.

5.1.3 Soils

Since no major adverse impacts were identified in DGEIS Chapter 4.0, no discussion of mitigation measures is necessary. The impacts associated with site-specific develoment should be examined when a development alternative is identified *to ensure conformance with the thresholds and criteria identified in the FGEIS.*

According to NYSDEC, no further soil testing will be required during the construction of site-specific development activities in Sub-Areas 2, 3, 6 and 7. All activities during this phase

of development at the EDA will proceed premised upon normal construction practices.

5.1.4 Topography

The northern section of the Love Canal EDA (north of Colvin Boulevard) is located within the 100 year floodplain.

Impacts associated with construction or rehabilitation of housing structures located in a designated floodplain, as is the case in the Love Canal EDA, can be effectively mitigated through adherence to all applicable *regulations as set forth in the City of Niagara Falls Floodplain Ordinance.*

The houses located in the 100 year floodplain represent some of the best housing stock in the EDA. These houses possess a average condition rating of 8 (see FGEIS Section 2.4 entitled," Deliberations of the Land Use Advisory Committee" for further explanation of the condition criteria). This rating average is based upon standard rehabilitation criteria as well as the number of deficiencies each unit contains. LCARA does not want to demolish these units and replace them with park or open space since the units are in very good condition.

Before these housing units are placed on the active real estate market, each will be rehabilitated in conformance with the parameters identified in the City of Niagara Falls Floodplain Ordinance.

5.2 Water Resources

5.2.1 Groundwater

Since no major adverse impacts were identified in FGEIS Chapter 4.0, no discussion of mitigation measures is necessary. The impacts and mitigation measures associated with site-specific development should be further examined when a development alternative is identified.

No further groundwater testing will be required during the construction of site-specific development activities in Sub-Areas 2, 3, 6, 7. All activities during this phase of development at the EDA will proceed premised upon normal construction practices.

5.2.2 Surface Water

Proposed remediation activities and planned demolition of residential units in Sub-areas 2 and 3 could produce potentially serious impacts on the approximate 25 acre NYSDEC

regulated Class II wetland due to runoff of exposed soils. *The type and level of remedial action to be undertaken in Sub-Areas 2 and 3 has not yet been identified by NYSDEC.* The impact on the wetland will be a result of the extent of remediation proposed.

In order to prevent degradation of the wetland from either of the above activities, *the NYSDEC mandated 100 foot buffer will be respected to prevent encroachment upon the wetland thereby assuring its continued vitality as a habitat.* A silt fence and/or hay bales will be placed along the boundary of the buffer zone to reduce the impact of soil erosion and siltation. The silt fence and/or hay bales will restrict passage into the wetland. These measures will remain in place until natural vegetation can be re-established on the site.

5.3 Air Resources

Since no major adverse impacts were identified in FGEIS Section 4.0, discussion of mitigation measures is not necessary. The impacts and mitigation measures associated with site-specific development should be further examined when a development alternative is identified.

The NYSDEC is committed to on-going monitoring and review of the containment facility and leachate treatment plant at the Love Canal EDA which will ensure protection of human health and safety during and after future construction activities. In addition, NYSDEC is responsible for controlling/monitoring air quality during remediadial activities in EDA Sub-Areas 2, 3, 4 and 5 to ensure adherence to state and federal regulations.

No further air testing will be required during the construction of site-specific development activities in Sub-Areas 2, 3, 6 and 7. All activities during this phase of development at the EDA will proceed premised upon normal construction practices.

5.4 Terrestrial and Aquatic Ecology

5.4.1 Vegetation

No trace of the Sky-Blue Aster nor the Closed Gentian has been identified at the Love Canal site. Therefore, no adverse impacts exist in regard to the above mentioned plants.

5.4.2 Animal Species

Since no major adverse impacts were identified in FGEIS Section 4.0, no discussion of mitigation measures is necessary. The

impacts and mitigation measures associated with site-specific develoment should be examined when a develoment alternative is identified *to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.4.3 Wetlands

Appropriate mitigation measures to ensure the continued viability of the site's wetland have been identified in FGEIS Section 5.2.2.

5.5 Transportation

Roadway improvements proposed by the City of Niagara Falls City Engineer will mitigate potential traffic impacts associated with resettlment and redevelopment of the Love Canal EDA.

Traffic associated with commercial, light industrial and office uses will directly access Williams Road, thereby avoiding residential areas.

Lastly, in correspondence dated February 8, 1990 from Franklin E. White, Commissioner of the State of New York Department of Transportation, the Commissioner stated that development activity at the Love Canal EDA will not create any immediate adverse transportation impacts. The Love Canal project will simply restore the EDA to "pre-Love Canal" levels. This correspondence is provided in FGEIS Appendix A, Section 2.18 entitled, "New York State Department of Transportation."

5.6 Land Use and Zoning

5.6.1 Land Use

The Preferred Alternative proposes a change in land use in Sub-areas 2 and 3 from residential to commercial, light industrial and office park. A significant impact associated with this action is related to the existence of approximately 30 active residential units in Sub-areas 2 and 3. *In order to prevent any undue social disruption of existing residents due to development activities at the Love Canal EDA, existing residents will be given preferential treatment in resettling the targeted EDA.*

Remaining residents fall into several categories. To answer the concerns of this diverse group of people, LCARA has developed a multi-faceted series of incentives to encourage

people to consider alternatives to their present situation.

For Renters, LCARA will offer the following:

For those desiring to move out of the EDA, LCARA will offer the following relocation assistance:

1. *Assistance in finding comparable housing opportunities elsewhere in Western New York*

2. *Full moving costs.*

3. *New range and refrigerator.*

4. *Payment of deposits if required for apartments, utilities and telephone.*

For those who wish to move to the EDA habitable areas, LCARA will propose the following:

1. *The opportunity to rent improved buildings at comparable rents.*

2. *The opportunity to apply a portion of the rent toward purchase of the home.*

3. *Moving costs.*

4. *Payment of deposits for utilities and telephone if required.*

For homeowners, LCARA proposes the following:

1. *LCARA will swap homes in the non-habitable area for equivelant homes in the habitable area.*

2. *LCARA will pay "loss of favorable mortgage" payments if applicable or provide a mortgage at equal rates.*

3. *LCARA will pay all moving expenses.*

4. *LCARA will pay deposits for utilities and telephone if required.*

For those persons who choose to remain in the non-habitable areas, LCARA will maintain neighborhood conditions at the highest levels possible given funding restraints. This will include security patrols, lawn mowing, trash and debris pickup. It will greenfield Sub-Areas 2 and 3 until such time as a phased development can be implemented which respects the rights

of area residents.

Furthermore, LCARA has accepted a preferred land use concept which proposes industrial/commercial use for areas 2 and 3 which are located east of the Love Canal Containment Area. Analysis of existing patterns of settlement shows that the greatest number of remaining residents are located in the southern part of this area with smaller numbers north. Therefore, phasing of light industrial office park uses would start in the north near Colvin Boulevard and proceed in a southerly direction. Refer to FGEIS Figure 16A and FGEIS Figure 16B for further graphic explanation of the proposed phasing and development plan for Sub-Areas 2 and 3.

5.6.2 Zoning

A rezoning of Sub-areas 2 and 3 will be proposed in order to accommodate development of industrial park uses. Both the City of Niagara Falls and the Town of Wheatfield will be required to approve the rezoning.

Furthermore, the FGEIS could satisfy future SEQR review requirements if the City of Niagara Falls and Town of Wheatfield determines, as a result of their findings, that the FGEIS contains sufficient information to base a zoning change decision upon.

5.7 Community Services

5.7.1 Educational Facilities

An approximate increase of 437 students could result at full development of the Preferred Alternative. The impact of this increase can be adequately mitigated. Resettlement and redevelopment activities at the Love Canal will occur on a phased basis, thereby, producing new school students incrementally. The incremental increase will allow adequate capital and program planning on the part of the City of Niagara Falls City School District.

Due to the increasing need for more instructional and program space by the City of Niagara Falls School District, the 93rd Street School will be once again utilized as an instructional facility.

5.7.2 Police Protection

Since no adverse impacts upon police protection were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary.

The impacts associated with site-specific development should be examined when a development alternative is identified *to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.7.3 Fire Protection

Since no adverse impacts upon fire protection were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site-specific development should be examined when a development alternative is identified *to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.7.4 Health Care Facilities

Since no adverse impacts upon health care facilities were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site-specific development should be examined when a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.7.5 Social Services

Since no adverse impacts upon social services were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site-specific development should be examined when a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.7.6 Recreational Facilities

Since no adverse impacts upon recreational facilities were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts and mitigation measures associated with site-specific development should be examined when a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.7.7 Utilities

Since no adverse impacts upon community utilities were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site-specific development should be examined when a development alternative is identified *in order to ensure conformance with the*

thresholds and criteria identified in the FGEIS.

5.7.8 Library Facilities

Since no adverse impacts upon library facilities were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site-specific development should be examined whan a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.7.9 Postal Services

Since no adverse impacts on postal services were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site-specific development should be examined when a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.7.10 Tax Revenues

Impacts are considered very beneficial to both the Town of Wheatfield and City of Niagara Falls.

5.8 Demography

5.8.1 Population and Labor Force

Since no adverse impacts were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site-specific development should be examined when a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.8.2 Housing and Commercial Development

5.8.2.1 Housing Market Data

Approximately 250 housing units located in the Black Creek Village Area (Sub-areas 4 and 5) and along 93rd Street in the Love Canal EDA are to be rehabilitated and sold.

In order to mitigate any adverse impacts upon the the Niagara Falls real estate market, a phased selling of housing units is proposed. Girasole Appraisal Company has estimated that

20 to 25 housing units per year could be adequately absorbed into the Niagara Falls market without disruption of average sales prices and length of time units are on the market. Given this time frame, an absorption period of approximately 10 to 12 years could be expected. This absorption period is subject to change dependent upon market conditions.

5.8.2.2 Commercial Market Impacts

A positive impact would be created by the type of industrial park activities proposed in the Preferred Alternative.

5.9 Cultural Characteristics

5.9.1 Visual Resources

Since no adverse impacts were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site-specific development should be examined when a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.9.2 Archaeological and Historic Resources

5.9.2.1 Archaeological Resources

Since no adverse impacts were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site- specific development should be examined when a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

5.9.2.2 Historic Resources

In order to mitigate any possible demolition of a potentially historic structure at the Love Canal EDA, a survey of all EDA properties that are 50 years and older, will be conducted. If any of these units are determined to be historically significant, state guidelines and regulations will be followed.

5.9.3 Noise

Since no adverse impacts were identified in FGEIS Chapter 4.0, no mitigation measures will be necessary. The impacts associated with site- specific development should be examined when a development alternative is identified *in order to ensure conformance with the thresholds and criteria identified in the FGEIS.*

6.0 ADVERSE EFFECTS THAT CANNOT BE AVOIDED IF PROJECT IS IMPLEMENTED

6.0 ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF PROJECT IS IMPLEMENTED

The following unavoidable adverse impacts are identified with respect to the acceptance and implementation of the Preferred Alternative at the Love Canal EDA. Adverse impacts that cannot be avoided if the project is implemented are impacts which "...can be expected to occur regardless of the mitigation measures employed" (SEQR Handbook, B-33).

6.1 **Geology**

6.1.1 Subsurface Geology

No adverse impacts are anticipated.

6.1.2 Surficial Geology

The soils will be exposed to erosion due to demolition of vacant, deteriorated housing units, subsequent and required remedial actions by NYSDEC, as well as during clearing and grading activities. Soils will be disturbed, compacted and/or replaced during the course of various *remediation and subsequent* construction phases *at the Love Canal EDA.*

6.2 **Water Resources**

6.2.1 Groundwater

No adverse impacts are anticipated.

6.2.2 Surface Water

Siltation from exposed soils and storm water runoff will constitute the most significant impact to the surface water of the Love Canal EDA, primarily the 25 acre Class II wetland located in Sub-areas 2 and 3. Water quality of all surface waters will be protected.

6.3 **Air Resources**

Implementation of the Preferred Alternative will result in a minimal increase in the levels of carbon monoxide and other pollutants typical of internal combustion engines. This increase will be principally attributable to emissions from construction vehicles during implementation of the Preferred Alternative and from resident-owned vehicles traveling to and from the site. Although the increase in carbon monoxide levels in unavoidable, federal and state air quality standards will not be exceeded.

6.4 **Terrestrial And Aquatic Ecology**

There will be an unavoidable loss of vegetation and tree stock as a result of planned remediation activities by the State of New York and the demolition of vacant residential housing units in Sub-areas 2 and 3. An open "greenfield" is to be created until industrial park uses can be accomodated.

6.5 **Transportation**

There will be an unavoidable increase in traffic at the Love Canal EDA as a result of rehabitation and development of new light industrial, commercial and office uses.

6.6 **Land Use And Zoning**

There will be an unavoidable change in land use at the Love Canal EDA primarily in Sub-areas 2 and 3 where demolition of existing homes is to occur. *Existing residents will be given preferential treatment in resettling the targeted EDA to prevent any undue social disruption as a result of the demolition of housing units in Sub-Areas 2 and 3.* Loss of wooded area will be sustained to create a vacant greenspace until long-term development plans come to fruition. In the long-term, a change of land use from residential to industrial park use is envisioned in the Preferred Alternative.

6.7 **Community Services**

6.7.1 Educational Facilities

There will be an unavoidable increase in students in the City of Niagara Falls City School District as a result of rehabitation of the single family units as well as development of new medium density residential.

6.7.2 Police Protection

No adverse impacts are anticipated.

6.7.3 Fire Protection

No adverse impacts are anticipated.

6.7.4 Health Care Facilities

No adverse impacts are anticipated.

6.7.5 Social Services

No adverse impacts are anticipated.

6.7.6 Recreational Facilities

No adverse impacts are anticipated.

6.7.7 Community Utilities

No adverse impacts are anticipated.

6.7.8 Library Facilities

No adverse impacts are anticipated.

6.7.9 Postal Services

No adverse impacts are anticipated.

6.7.10 Tax Revenues

Extremely beneficial impacts will result from rehabitation and redevelopment of the Love Canal EDA.

6.9 CULTURAL RESOURCES

6.9.1 Visual

The visual appearance of the Love Canal EDA will greatly improve as a result of the redevelopment and rehabitation of the area.

6.9.2 Archaeological and Historic Resources

No adverse impacts are anticipated.

6.9.3 Noise

No adverse impacts are anticipated.

7.0 ALTERNATIVES TO THE PROPOSED ACTION

7.0 ALTERNATIVES TO THE PROPOSED ACTION

As stated in the SEQR Handbook (page B-35), "It is important to discuss reasonable alternatives to the project (or portion thereof) that achieve the same or similiar objectives of the project sponsor, have relatively the same or reduced adverse environmental effects and can be implemented in a time frame similiar to that of the proposed action."

Four land use alternatives have been identified to guide future actions at the Love Canal EDA. These include the Demolition Sancturary Alternative, Resettlement-In-Kind Alternative PRD Concept Alternative and the No Action Alternative. The utility of each alternative to guide development at the Love Canal EDA has been evaluated against various cost/benefit criteria provided in DGEIS Section 7.1 below. In addition to the criteria evaluation, differences between each alternative, as compared with the Preferred Alternative, have also been identified.

7.1 Evaluation Matrix Criteria And LCARA Board Of Directors Project Goals and Objectives.

Each alternative has been analyzed in relation to its compliance with the cost/benefit criteria identified below as well as to judge the impacts upon the decisionmaking process. If a particular factor was considered negative, an alternative concept might be more appropriate.

1. **Environmental Factors**

   Consideration was given to the alternative plan's compliance with the New York State Department of Health's findings (Dr. Axelrod's Habitability Decision) and who would incur the cost of remediating Sub-areas 2 and 3 for residential development.

2. **Land Use Factors**

   Consideration was given to whether the alternatives are compatible with abutting uses and whether the existing zoning supports uses proposed in each alternative.

3. **Economic Factors**

   Consideration was given to whether the revenue generated from taxes will economically justify a particular alternative. Examination of job creation in both construction and post-construction phases, as well as the utility infrastructure opportunity cost and economic development opportunities was made.

4. **Social Factors**

   Consideration was given to the level of new housing opportunities created as a result of a particular alternative as well as to what degree existing homeowners throughout the Love Canal EDA will be accomodated as a result of a particular alternative.

In addition to the evaluation matrix criteria, each alternative has been evaluated against the goals and objectives accepted by the LCARA Board of Directors which serve to guide redevelopment efforts at the Love Canal EDA. Goals and objectives are provided below and are grouped according to the categories provided above:

Environmental Goals

1. The Love Canal area will be redeveloped in an environmentally responsible manner, based on the NYS Department of Health's findings of habitability and remediation recommendations.

2. The Love Canal area will be redeveloped in a manner which sustains and enhances the natural and man-made resources of the community.

Land Use Goals

1. LCARA accepts the habitability findings issued by the NYS Department of Health.

2. LCARA is willing to change the land use of properties held by third parties (Housing Authority, private citizens, others).

3. The Love Canal area redevelopment plan will be prepared in response to social as well as market demands and opportunities. Land use considerations will include residential, commercial, office, community and conservation activities.

Economic Goals

1. LCARA's mission in both the immediate and long-term is to achieve property revitalization. The agency is responsible for property management, sales and developement.

2. LCARA's resettlement objectives include grant/debt reduction and meeting community housing and employment needs.

3. Future public investment required for the preparation of property and/or land for sale in the Love Canal area should be measured against the anticipated return; a positive return (both economic and psychological) should be realized to the project sponsor.

4. LCARA is willing to rehabilitate residential units targeted for resale. Non-discretionary improvements will be considered.

5. LCARA is willing to purchase privately held properties located within the EDA at 1980 value.

6. LCARA will utilize its IDA financing capabilities to underwrite the financing of project construction and/or property sale.

Social Goals

1. The Love Canal resettlement plans and planning process should serve as a model for redeveloping Superfund sites, as measured by content, vision and implementation success.

2. The Love Canal area will be developed in a manner which has a positive psychological and economic impact on the community.

3. Resettlement of the habitable areas within the Love Canal area should not be restricted by race, sex, economic categorization or national origin.

4. The targeted resettlement population for Love Canal should be broadly representative of the City's social, economic and cultural groups.

5. Existing property owners will be given preferential treatment in resettling the targeted EDA.

7.2 ALTERNATIVES

7.2.1 Demolition/Sanctuary

The Demolition/Sanctuary Alternative assumes demolition of all structures located within the Love Canal EDA and disallows resettlement and redevelopment. By leaving the EDA in a natural, undeveloped state, it would serve as a passive "museum" to induce an awareness of the toxic chemical problem at Love Canal and throughout the United States.

When evaluated against the cost/benefit criteria the environmental and land use factors are generally considered positive since it would provide the City of Niagara Falls and surrounding area with a very large open space area for recreational and other passive pursuits and would not be in conflict with surrounding uses or present zoning classifications.

However, all economic and social cost/benefit factors are considered negative. No economic and social benefits would be derived as a result of implementation of the Demolition/Sanctuary Alternative. In economic terms, the City and Town would be deprived of badly needed tax revenues to undertake important infrastructure and other improvements throughout the City and Town. Furthermore, not developing the land surrounding the containment area would involve an opportunity cost in terms of the existing infrastructure (e.g., water/sewer lines, roadways, etc.). To abandon presently functioning utility systems and leave them intact is an exhorbitant opportunity cost which would not justify the return received from implementation of this alternative. *The cost to replace this infrastructure would be approximately $7.5 million. Refer to FGEIS Appendix U for support data used to determine this cost.*

The purpose of Superfund was to clean up chemical spills and toxic waste sites. Many millions of dollars have been spent by the federal and state governments to remediate the Love Canal EDA in order to return the property to a useful purpose. The economic cost does not justify the return received from implementation of the Demolition/Sanctuary Alternative.

In social terms, demolition of existing housing stock would deprive those people seeking moderately priced housing opportunities of the chance to purchase a first home at reasonable cost. Leaving the EDA in a natural state would also involve the relocation of approximately 60 existing homeowners who, in the midst of the Love Canal disaster, refused to move out of their homes. Thought must seriously be given to those persons remaining in the Love Canal neighborhood and the impact

the Demolition/Sanctuary alternative would have upon these people.

Overall, this alternative possesses highly negative cost/benefits. In addition, the Demolition/Sanctuary Alternative generally contradicts stated goals and objectives:

Environmental Goals

This alternative is compatible with stated environmental goals. Under this alternative, the EDA would be developed in an environmentally sensitive manner and would sustain and enhance natural features but not man-made features. All man-made features would be demolished.

Land Use Goals

The Demolition/Sanctuary Alternative would not satisfy Land Use goals. It does not respond to market demands or opportunities. There is a present need for single family housing units in the LaSalle Neighborhood of Niagara Falls. If the units were demolished, an opportunity to provide new and affordable housing opportunities would be denied.

Economic Goals

No positive economic return would accrue in this alternative.

Social Goals

By disallowing resettlement, the sponsor's goals of providing housing to all socio-economic strata in the City and Town could not be fulfilled nor would former residents be allowed to return to their neighborhood.

7.2.2 Resettlement In-Kind

Figure 27:RESETTLEMENT IN-KIND, graphically represents the components of this alternative.

The Resettlement-In-Kind Alternative is similiar to the Preferred Alternative in that it envisions single family residential development to the north (Sub-areas 4 and 5), *reuse of the 93rd Street School* to the northwest and medium density development to the west (Sub- Areas 6 and 7). In both alternatives Sub-area 1 is proposed as a gateway/transition area.

The major difference between the two alternatives is that the Resettlement-In-Kind Alternative proposes limited commercial development and single family residential in Sub-areas 2 and 3, with single family residential being the predominant use. To develop single familiy housing in these areas would be costly since the existing housing structures have stood vacant for 11 + years and are in a severely deteriorated condition.

When evaluated against the cost/benefit criteria, the environmental factor is considered neutral or negative depending upon who undertakes the cost of remediating Sub-areas 2and 3 for ongoing residential use. Dr. Axelrod's Decision on Habitability states that *the areas east of the canal and south of Colvin Boulevard (Sub-Areas 2 and 3) fail to meet the standards and are not now suitable for residential use.* Since the New York State Department of Environmental Conservation has agreed to bear the cost of remediating Sub-areas 2 and 3, the cost/benefit is considered neutral.

Land use and social factors are considered positives. Economic factors are generally considered positives with the exception of the last criteria labled "Develop economic opportunities," a negative cost/benefit due to the lack of significant development of commercial, industrial or office opportunities.

When evaluated against the goals and objectives of the project sponsor, the Resettlement-In-Kind Alternative is not fully satisfactory.

Environmental Goals

This alternative is environmentally sound and sustains and enhances the natural and man-made resources of the community.

Land Use Goals

The Resettlement-In-Kind Alternative does not adhere to the Department of Health's Decision on Habitability in its proposed residential use for Sub-Areas 2 and 3. However, the NYSDEC has committed to remediation of the area in question thereby allowing unrestricted residential use in Sub-Areas 2 and 3.

Economic Goals

This alternative would not produce a positive return due to the extensive rehabilitation of homes required in Sub- areas 2 and 3. Cost would exceed the economic gain to be received when resold.

Social Goals

Stated social goals and objectives are generally compatible with this alternative.

7.2.3 PUD Concept

Figure 28: LAND USE DIAGRAM, ALTERNATE 3: PUD CONCEPT graphically represents the proposals in this alternative.

The PUD Concept envisions a 70 percent *reuse* factor. This alternative is similiar to the Preferred Alternative in that it encompasses single family residential development to the north (Sub-areas 4 and 5), school/parkland to the northwest (93rd Street School property) and medium density residential to the west.

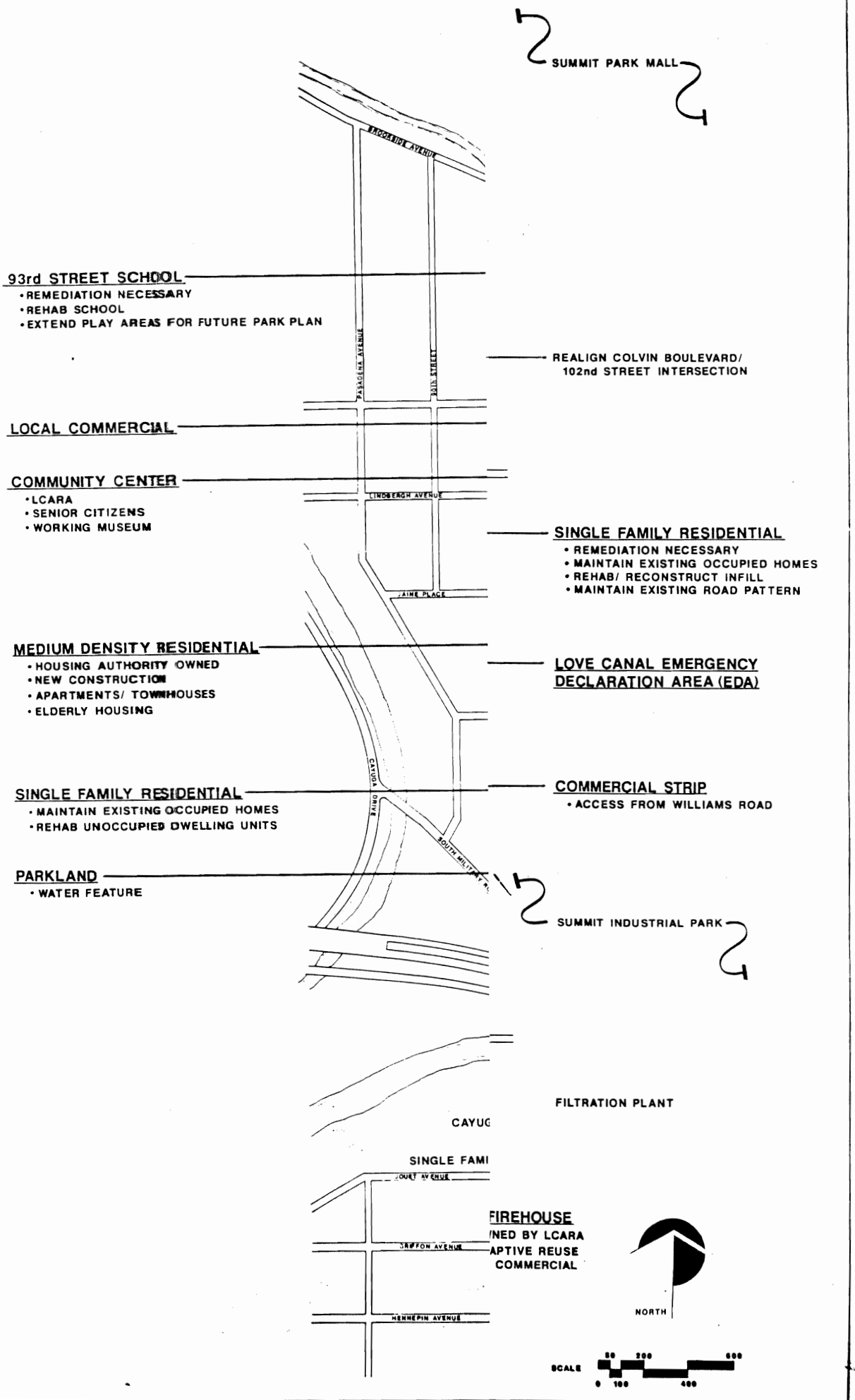
The two alternatives differ in that the PUD Concept proposes development of commercial activity in Sub-areas 6 and 7 as well as in Sub-areas 2 and 3. Sub-areas 2 and 3 are also identified for residential development. It is in the interest of the project sponsor to restrict commercial activity to Sub-areas 2 and 3 since extensive commercial activity is already progressing along Williams Road. Sub-areas 6 and 7 border an area of single familiy residences and do not possess an adequate buffer area to screen commercial use.

When evaluated against the cost/benefit criteria, all cost/benefit factors are considered to be neutral to generally positive for the PUD Concept Alternative. The PUD Concept is in conformance with Dr. Axelrod's findings on habitability *but would require remediation of Sub-Areas 2 and 3 due to the residential component.* Implementation of the PUD Concept would involve a zoning change to a Planned Unit Residential designation to accomodate the mix of residential and commercial uses interspersed with park land areas.

When evaluated against the goals and objectives, the PUD Concept is compatible with the Environmental, Land Use and Social goals but is deficient in its adherence to Economic Goals.

Environmental Goals

The PUD Concept is environmentally sound, envisioning remediation of Sub-areas 2 and 3 to accomodate single family residential development. It also enhances both natural and man-made resources of the site.



LEGEND

- REMAINING RESIDENTS/ OWNED BY OTHERS
- LCARA OWNED
- VEGETATIVE/ VISUAL BUFFER
- VEHICULAR ACCESS
- SINGLE FAMILY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- COMMUNITY CENTER
- PARK/OPEN SPACE
- COMMERCIAL

THE SARATOGA ASSOCIATES

BRISTOL, LEVY, NEW YORK, CHICAGO, LOS ANGELES, SAN FRANCISCO

LOVE CANAL AREA RESETTLEMENT STUDY

LAND USE DIAGRAM ALTERNATE 2

RESETTLEMENT "IN KIND"

NIAGARA FALLS, NEW YORK

FIGURE 27

Land Use Goals

The PUD Concept Alternative is generally compatible with stated land use goals and objectives.

Economic Goals

The PUD Concept Alternative is similiar to the Resettlement-In-Kind Alternative in its proposed residential development in Sub-areas 2 and 3. As was the case for the previous alternative discussed, the economic gain to be derived from resale of these homes would not warrant the cost to rehabilitate them.

Social Goals

The PUD Concept Alternative is generally compatible with stated Social Goals.

7.2.4 No Action

The No Action Alternative would entail no demolition, redevelopment or resettlement activity at the Love Canal EDA. This alternative would involve leaving the EDA as it presently exists. Activities encompassed under this alternative would involve simply maintaining structures and undertaking normal environmental monitoring activites. The impacts associated with implementation of the No Action Alternative include the following:

1. Costs Incurred by Federal, State and Local Governments

The primary purpose of the Superfund Program at its inception was to clean up chemical spills and toxic waste sites in order to return previously unusable land to productive use. Many millions of dollars have been spent by the federal, state and local governments to remediate the Love Canal EDA.

As a result of these efforts, the NYSDOH has deemed portions of the EDA as habitable. The costs associated with remediation efforts of the past 11 years does not suggest implementation of the No Action Alternative.

2. Economic Costs

Implementataion of the No Action Alternative would deny the City of Niagara Falls and The Town of Wheatfield the benefit of increased tax revenues to undertake needed community service improvements.

3. Housing Demand

Resale of housing units located in the Black Creek Village (Sub-areas 4 and 5) and along 93rd Street would satisfy a present shortage of housing units in the LaSalle Neighborhood located immediately west of the Love Canal EDA. If the No Action Alternative is implemented, persons seeking affordable "starter homes" will be denied the opportunity.

Implementation of the No Action Alternative would also continue the negative emotions of the remaining 60 families are experiencing from residing in the remnants of a community that was once comprised of vibrant and cohesive neighborhoods. Resettlement and redevelopment of the Love Canal EDA will begin to lessen this impact and return some semblence of order to the neighborhoods surrounding the Love Canal.

4. Commercial Space Demand

Implementation of the No Action Alternative will deny the City of Niagara Falls and the Town of Wheatfield an opportunity to expand their commercial, light industrial and office bases.

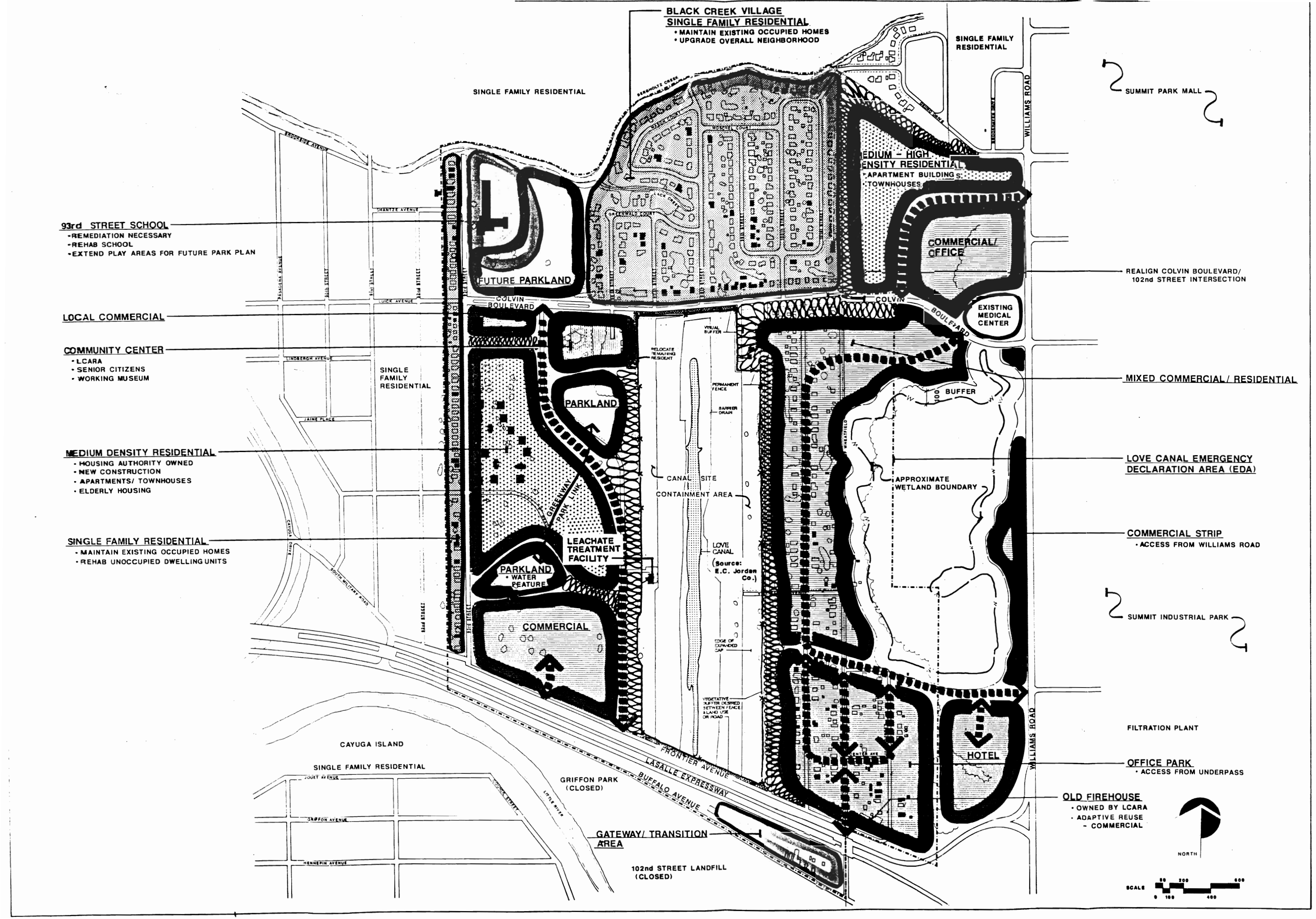
5. Visual Improvements

Implementation of the No Action Alternative would perpetuate the negative image many people have of the Niagara Falls Region due to the Love Canal crisis.

The No Action Alternative does not adequately satisfy any category of stated goals and objectives.

Environmental Goals

The No Action Alternative envisions maintaining the EDA's decayed and deteriorated condition. This does not sustain or enhance the site's natural or man-made resources.



THE SARATOGA ASSOCIATES

BRISTOL, LITYNSKI, WOJCIK

LANDSCAPE ARCHITECTS, ARCHITECTS AND PLANNERS

SARATOGA SPRINGS, NEW YORK

LOVE CANAL AREA RESETTLEMENT STUDY

LAND USE DIAGRAM ALTERNATE 3

P.U.D. CONCEPT

NIAGARA FALLS, NEW YOR

99-031109

DRAWN BY JXPC

SCALE 1" = 200'

DATE 7/25/00

REV

FIGURE 28

Land Use Goals

The No-Action Alternative does not satisfy stated land use goals in that market demands and opportunities would not be satisfied. No new housing or job opportunities would be realized.

Economic Goals

No positive return would be realized from the No-Action Alternative. Property revitalization would not occur nor would any positive psychological impact be felt throughout the community.

Social Goals

The project sponsor's goals of offering housing opportunities to all segments of society could not be realized.

7.3 SUMMARY OF ALTERNATIVES

The last analysis to be undertaken is a review of each of the alternatives in relation to the impacts upon community services, traffic, number of units/acres, daily population and square feet of building space. FGEIS Figure 29: SUMMARY OF ALTERNATIVES, PARK USE, DGEIS Figure 30: SUMMARY OF ALTERNATIVES, SINGLE FAMILY USE, FGEIS Figure 31: SUMMARY OF ALTERNATIVES, MEDIUM DENSITY USE, FGEIS Figure 32: SUMMARY OF ALTERNATIVES, OFFICE DEVELOPMENT, FGEIS Figure 33: SUMMARY OF ALTERNATIVES, LIGHT INDUSTRIAL USE, FGEIS Figure 34: SUMMARY OF ALTERNATIVES, COMMERCIAL USE, FGEIS Figure 35: SUMMARY OF ALTERNATIVES, CONTAINMENT AREA graphically describe each alternative measured against these aforementioned factors according to individual uses. FGEIS Figure 36: SUMMARY OF ALTERNATIVES, ALL USES, provides an overall comparison.

7.3.1 Summary of Alternatives, Park Use

All alternative development scenarios contain a provision for park land. The Demolition/Sanctuary Alternative envisions the total +/- 350 acre site as passive park land. The Resettlement-In-Kind Alternative provides for 25 acres of park land, compared with 30 acres for the PUD Concept and Preferred Alternative (includes Sub-area 1, +/- 5 acres).

Projected water and sewer demand is the same for all alternatives. Water and sewer demand is expected to range from 25-2,500 gpd and 106-2,125 gpd, respectively.

Traffic projections for all alternatives is about the same with the PUD Concept and Preferred Alternative generating slightly higer traffic counts than the Resettlement-In-Kind scenario.

7.3.2 Summary of Alternatives, Single Family Use

All alternatives envision development of single family residential areas. The Resettlement-In-Kind Alternative utilizes 180 acres and will create approximately 1,764 new persons in the Love Canal EDA. The PUD Concept contains 110 acres and envisions creation of 1,310 persons. The Preferred Alternative contains 75 acres and will create 874 persons.

Traffic counts will be the lowest for the Preferred Alternative since it will create the least amount of new population in the EDA.

Water and sewer usage for The Resettlement-In-Kind Scenario is projected at approximately 198,000 gpd and 168,000 gpd, respectively. For the PUD Concept, 147,000 gpd and 125,000 gpd, respectively. For the Preferred Alternative, 95,000 gpd and 81,000 gpd, respectively. Supply is adequate for all scenarios.

All alternatives possess beneficial impact for tax revenue generation. In the Resettlement-In-Kind Alternative, both the City and Town will benefit. The Town's share would equal approximately $6,200 while approximately $911,000 would accrue to the City. For the PUD Concept and Preferred Alternative, tax revenues would only accrue to the City since no single family use is proposed in these alternatives. The PUD Concept and Preferred Alternative would generate approximately $734,000 and $460,000, respectively.

Each alternative would add students to the Niagara- Wheatfield and City of Niagara Falls School Districts, with the exception of the Preferred Alternative, which would only impact the City of Niagara Falls City School District. The Resettlement-In-Kind Alternative could create a total of 458 new school children (418 Niagara Falls 40 Wheatfield). The PUD Concept could create a total of 329 school children (304 Niagara Falls, 25 Wheatfield) The Preferred Alternative could create 219 new students.

7.3.3 Summary of Alternatives, Medium Density Use

All alternatives envision some sort of medium density residential use in Sub-areas 6 and 7. The Resettlement-In-Kind Alternative allots 65 acres of the EDA for medium density

development, thereby creating 1,545 new residents. The PUD Concept forsees 50 acres with a new population of 1,187 persons. The Preferred Alternative envisions 72 acres with a new population of 1,709 persons.

The Preferred Alternative is expected to generate the most traffic due to the commercial, light industrial and office developments.

Water and sewer usage for the Resettlement-In-Kind, PUD Concept and The Preferred Alternative is expected to be 214,500 gpd and 182,000 gpd, 165,000 gpd and 140,000 gpd and 237,000 gpd and 201,000 gpd, respectively.

Tax revenues will accrue only to the City of Niagara Falls since no medium density residential development will occur in the Town of Wheatfield. Expected tax revenues for the Resettlement-In-Kind, PUD Concept and the Preferred Alternative equal approximately $670,000, $516,000 and $714,000, respectively.

Only the City of Niagara Falls will be impacted by new students since no medium density residential development is planned for the Town of Wheatfield. The Resettlement-In- Kind, PUD Concept and the Preferred Alternative could create 213, 153 and 218 new students, respectively.

7.3.4 Summary of Alternatives, Office Development

The PUD Concept and Preferred Alternative are the only scenarios which call for office development at the Love Canal EDA. Total acres of office development for both scenarios equals 35. Since impacts were figured on the same acreage, the following discussion will be applicable to both PUD Concept and Preferred Alternative.

Building space is expected to be approximately 355,000 sq. ft. which will require approximately 2400 parking spaces. Office development at the Love Canal EDA (given the preceding square footage) is expected to generate +/- 1000 employees.

Water and sewer usage is expected to be approximately 15,000 gpd and 13,000 gpd, respectively. Water and sewer capacity is adequate to accomodate office development for both alternatives.

Tax revenues will accrue to both the Town and City. Expected tax revenue generation has been split according to land and building. For the Town of Wheatfield, tax generation from land could be $119,000 and $211,000 from the building portion. For

Figure 29: SUMMARY OF ALTERNATIVES, PARK USE

Criterion / Alternative	Daily Population	# of Units (acres)	# of Sq. Ft. Building Space	# of Parking Spaces	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
No Action	N/A none proposed	-	-	-	-	-	-	-	-
Demolition/ Sanctuary	N/A	355 acres	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Resettlement In-Kind	25-500 persons	25 acres	N/A	0-10 PUD 100± 93rd St.	Weekday 900 AM 525 PM 210 Sat. 1,875 Sun. 1,475 Sat. (peak) 183 Sun. (peak) 215	25-2,500 gpd.	106-2,125 gpd.	N/A	N/A
PUD Concept	25-500 persons	30 acres	N/A	0-10 PUD 100± 93rd St.	1,080 630 252 2,250 1,770 219 258	Same as above	Same as above	N/A	N/A
Preferred Alternative	25-500 persons	30 acres	N/A	0-10 PUD 100± 93rd St.	Same as above	Same as above	Same as above	N/A	N/A

Figure 30: SUMMARY OF ALTERNATIVES, SINGLE FAMILY

Criterion / Alternative	Daily Population	# of Units (acres)	# of Sq. Ft. Building Space	# of Parking Spaces	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
No Action	N/A	70 -	N/A	WF 2/du NF 1/du	N/A	26,425 gpd.	22,425 gpd.	Current Collections	WF NF
Demolition/ Sanctuary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Resettlement In-Kind	1,764 persons	180 acres	N/A	Same as No action	Weekday 5,283 AM 385 PM 25 Sat. 5,328 Sun. 4,585 Sat. (peak) 501 Sun. (peak) 496	198,188 gpd.	168,460 gpd.	WF $6,262 NF $911,066	K-6 31 JHS 5 HS 4 40 WF 262 NF 89 67 418

Figure 30: SUMMARY OF ALTERNATIVES, SINGLE FAMILY - cont'd

Criterion / Alternative	Daily Population	# of Units (acres)	# of Sq. Ft. Building Space	# of Parking Spaces	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
PUD Concept	1,310 persons	110 acres	N/A	Same as above	3,924 286 395 3,958 3,406 372 368	147,225 gpd.	125,141 gpd.	WF N/A NF $734,413	K-6 16 JHS 5 HS 4 25 WF NF 191 64 49 304
Preferred Alternative	874 persons	75 acres	N/A	Same as above	2,616 191 263 2,639 2,271 248 245	95,475 gpd.	81,154 gpd.	WF N/A NF $461,075	WF N/A NF K-6 138 JHS 46 HS 35 219

Figure 31: SUMMARY OF ALTERNATIVES, MEDIUM DENSITY USE

Criterion / Alternative	Daily Population	# of Units (acres)	# of Sq. Ft. Building Space	# of Parking Spaces	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
No Action	N/A	-	-	-	-	-	-	-	-
Demolition/ Sanctuary	N/A	-	-	-	-	-	-	-	-
Resettlement In-Kind	1,662 persons	70 acres	N/A	NF 1/du WF N/A - none proposed	Weekday 5,278 AM 449 PM 557 Sat. 4,947 Sun. 3,915 Sat. (peak) 427 Sun. (peak) 339	231,000 gpd.	196,350 gpd.	WF N/A NF $722,000	WF N/A NF K-6 128 JHS 47 HS 38 213
PUD Concept	1,187 persons	50 acres	N/A	Same as above	4,091 321 398 3,534 2,797 305 242	165,000 gpd.	140,250 gpd.	WF N/A NF $515,682	WF N/A NF K-6 91 JHS 34 HS 28 153
Preferred Alternative	1,782 persons	75 acres	N/A	Same as above	6,137 481 597 5,300 4,195 458 363	247,500 gpf.	210,375 gpd.	WF N/A NF $773,524	WF N/A NF K-6 131 JHS 48 HS 39 218

Figure 32: SUMMARY OF ALTERNATIVES, OFFICE DEVELOPMENT

Criterion / Alternative	Daily Population	# of Units (acres)	# of Sq. Ft. Building Space	# of Parking Spaces	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
No Action	N/A	-	-	-	-	-	-	-	-
Demolition/ Sanctuary	N/A	-	-	-	-	-	-	-	-
Resettlement In Kind	N/A	-	-	-	-	-	-	-	-
PUD Concept	1,023 employees	35 acres	355,000 sf. ft.	2,373	Weekday 7,610 AM 596 PM 741 Sat. 6,573 Sun. 5,202 Sat. (peak) 568 Sun. (peak) 450 312	15,345 gpd.	13,043 gpd.	WF Land $119,000 Building $211,000 NF Land $13,238 Building $239,598	WF N/A NF N/A
Preferred Alternative	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	N/A

Figure 33: SUMMARY OF ALTERNATIVES, COMMERCIAL

Criterion / Alternative	Daily Population	# of Units (acres)	# of Sq. Ft. Building Space	# of Parking Spaces	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
No Action	N/A	-	-	-	-	-	-	-	-
Demolition/ Sanctuary	N/A	-	-	-	-	-	-	-	-
Resettlement In-Kind	44 employees	15 acres	72,527	484	Weekday 518 AM 178 PM 77 Sat. 132 Sun. 86 Sat. (peak) 13 Sun. (peak) 8	1,995 gpd.	1,696 gpd.	WF N/A NF Land $11,127 Building $294,000	N/A
PUD Concept	575 employees	65 acres	942,638	6,294	2,237 772 334 572 371 58 33	8,625 gpd.	7,331 gpd.	WF Land $4,359 Building $115,006 NF Land $48,594 Building $1,272,905	N/A N/A
Preferred Alternative	155 employees	25 acres	253,846	1,695	603 208 90 154 100 16 9	2,325 gpd.	1976 gpd.	WF Land $6,940 Building $100,619 NF Land $11,817 Building $171,326	N/A N/A

Figure 34: SUMMARY OF ALTERNATIVES, LIGHT INDUSTRIAL

Criterion / Alternative	Daily Population	# of Units (acres)	# of Sq. Ft. Building Space	# of Parking Spaces	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
No Action	N/A	-	-	-	-	-	-	-	-
Demolition/ Sanctuary	N/A	-	-	-	-	-	-	-	-
Resettlement In Kind	N/A	-	-	-	-	-	-	-	-
PUD Concept	N/A	-	-	-	-	-	-	-	-
Preferred Alternative	1,220 employees	50 acres	762,300	2,541	Weekday 4,159 AM 526 PM 551 Sat. 1,418 Sun. 348 Sat. (peak) 167 Sun. (peak) 35	30,500 gpd.	25,925 gpd.	WF NA NF Land $35,399 Building $1,543,482	N/A

Figure 35: SUMMARY OF ALTERNATIVES, CONTAINMENT AREA

Criterion / Alternative	Daily Population	# of Units (acres)	# of Sq. Ft. Building Space	# of Parking Spaces	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
All Alternative	N/A	65 acres	3,731	10	During const. season 80 trips/day during winter 10-20 trips/day	Process day 4,200 gpd. Working day 300 gpd.	Process day 45,000 gpd.	N/A	N/A

Figure 36: SUMMARY OF ALTERNATIVES, ALL USES

Criterion / Alternative	Population (Residential)	# Employees Created	Traffic Generators	Water	Sewer	Tax Revenues	# of School Age Children
No Action	202 existing res. population	N/A	Existing Traffic Volume	26,425 gpd.	22,461 gpd.	Current Collections	Existing Student Population
Demolition/ Sanctuary	N/A	-	-	-	-	-	-
Resettlement In Kind	3,426	133	Weekday 11,979 AM 1,537 PM 869 Saturday 12,282 Sunday 10,061 Sat. (peak) 1,124 Sun. (peak) 1,058	432,683 gpd.	368,000 gpd.	WF $6,262 NF $1,938,193	WF K-6 31 JHS 5 HS 4 40 NF 390 136 105 631
PUD Concept	2,497	3,196	18,942 2,605 2,120 16,887 13,546 1,522 1,351	337,695 gpd.	289,567 gpd.	WF $449,365 NF $2,824,430	WF K-6 16 JHS 5 HS 4 25 NF 191 64 49 304
Preferred Alternative	2,656	2,398	22,205 2,632 2,494 18,334 13,886 1,676 1,360	391,145 gpd.	332,473 gpd.	WF $437,559 NF $3,249,459	NF K-6 269 JHS 94 HS 74 437

the City of Niagara Falls, land and building tax revenue generation could equal $13,000 and $240,000, respectively.

7.3.5 Summary of Alternatives, Commercial

The Resettlement-In-Kind, PUD Concept and Preferred Alternative all contain commercial development components. The Resettlement-In-Kind Alternative utilizes 15 acres of commercial development, contains +/- 72,000 sq. ft. and could create approximately 44 employees. The PUD Concept earmarks 65 acres for commercial development, contains +/- 940,000 square feet and could create approximately 575 employees. The Preferred Alternative envisions 25 acres for commercial activities, contain 254,000 sq. ft. and could create 155 employees.

Water and sewer usage for the Resettlement-In-Kind Alternative is 1700 gpd and 560 gpd, respectively. The PUD Concept is expected to utilize 8,600 gpd of water and produce 7,300 gpd of sewer material.

Tax revenues will accrue to both the City and Town in the PUD Concept and Preferred Alternative and only to the City in the Resettlement-In-Kind Alternative. Expected tax revenues are broken down into land tax and building tax. For the Resettlement-In-Kind Alternative, land tax could total $11,127 and building tax could total $294,000. For the PUD Concept, land tax for the Town of Wheatfield and the City of Niagara Falls could be $4,300 and $48,000, respectively. Building tax could total $115,000 for the Town and $1,300,000 for the City. The Preferred Alternative envisions land tax revenues for the Town and City to be $7,000 and $12,000, respectively. Building tax could total $100,000 for the Town and $171,000 for the City.

7.3.6 Summary of Alternatives, Light Industrial Use

Light Industrial activity will only occur in The Preferred Alternative. Fifty acres have been designated for development of light industrial activities and could create 1,220 employees. Building space would total approximately 760,000 sq. ft. and contain 2,500 parking spaces.

Water and sewer usage would equal approximately 30,500 gpd and 26,000 gpd, respectively. Water and sewer capacity is adequate to handle these loadings.

Tax revenues will only accrue to the City of Niagara Falls since no light industrial activities are planned for the Town

of Wheatfield. Total land tax revenue would equal $35,000 and building tax revenue could total $1,540,000.

7.3.7 Summary of Alternatives, Containment Area

The 65 acre fenced containment area will remain a constant in all development alternatives. The 3700 square foot NYSDEC leachate treatment facility is located within the fenced containment area.

On a typical process day (average 80 days per year) 4,500 gallons of water are used to cool the facility's compressor (includes 300 gpd for showers, toilets, etc.). The facility discharges 45,000 gpd into the City of Niagara Falls Sanitary Sewer System on a typical process day.

7.3.8 Summary of Alternatives, All Uses

The Love Canal EDA contains a total of +/- 350 acres of which 290 is developable. The following summmarizes the impacts associated with each alternative:

7.3.8.1 Resettlement-In-Kind

The Resettlement-In-Kind Alternative projects a new residential population of +/- 3400 persons and creation of +/- 130 employees.

Water and sewer usage in this alternative is projected to be approximately 433,000 gpd and 368,000 gpd, respectively. Water and Sewer system capacity is adequate to service this increase.

Tax revenue generation is extremely beneficial to the City of Niagara Falls while the benefit to the Town of Wheatfield is minimal. Tax revenue to accrue to the City and Town is $1,940,000 and $6,200, respectively.

Traffic will increase in the EDA primarily as a result of the single family and medium density residential components. Total weekday trips, AM Peak, PM Peak, Saturday, Sunday, Saturday Peak and Sunday Peak will number 11,979, 1,537, 869, 12,282, 10,061, 1,124, 1,058, respectively.

The number of new students as a result of the implementation of the Resettlement-In-Kind Alternative is +/- 670 (40-Wheatfield, 631-Niagara Falls).

7.3.8.2 PUD Concept

The PUD Concept projects a total population of approximately 2,500 new residents and creation of 3,200 employees.

Water and sewer usage is expected to be approximately 338,000 gpd and 290,000 gpd, respectively. Water and sewer system capacity is considered adequate to absorb these flows resulting from implementation of the PUD Concept Alternative.

Tax Revenue generation is considered extremely beneficial for both the City and the Town. Tax revenue accruing to the City of Niagara Falls equals $2,824,000 while revenues to the Town of Wheatfield equal approximately $449,000.

Traffic generation resulting from implementation of the PUD Concept will be equally derived from both residential and business oriented activities. Total weekday trips, AM Peak, PM Peak, Saturday, Sunday, Saturday Peak and Sunday Peak total 18,942, 2,605, 2,120, 16,887, 13,546, 1,522 and 1,351, respectively.

The number of students resulting from implementation of the PUD Concept equals 329 (25-Wheatfield, 304-Niagara Falls).

7.3.8.3 Preferred Alternative

Implementation of the Preferred Alternative could produce +/- 2600 residents *which would roughly equal "pre-Love Canal" levels* and create approximately 2,400 new employees.

Water and sewer usage could total 391,000 gpd and 332,000 gpd, respectively. Water and sewer system capacity is considered to be adequate to accomodate proposals set forth in the Preferred Alternative.

Tax revenue generation is expected to be extremely beneficial to both the City and Town. Tax revenues to accrue to the City equal $3,240,000 while the Town should realize a total tax benefit of approximately $438,000.

Traffic generation at the Love Canal EDA as a result of implementation of the Preferred Alternative is to be equally distributed between both residential and business oriented components. Total weekday trips, AM Peak, PM Peak, Saturday, Sunday, Saturday Peak and Sunday Peak equals 22,205, 2,632, 2,494, 18,334, 13,886, 1,676 and 1,360, respectively.

The number of new students generated as a consequence of implementation of the Preferred Alternative is 437. This

will impact only the City of Niagara Falls since no residential development will occur within the portion of the EDA located in the Town of Wheatfield.

8.0 IRREVERSIBLE AND IRRETREIVABLE COMMITMENT OF RESOURCES

8.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Any development will cause a loss of environmental resources, both in the immediate future and in the long-term. Although the Love Canal EDA was once an active residential community, the Preferred Alternative envisions a change in land use (Sub-areas 2 and 3) which will create an irreversible and irretreivable committment of resources above and beyond that of just a single family residential community.

The Love Canal EDA is *a predominantly* vacant, underutilized and very deteriorated +/- 350 acre parcel of land interspersed with approximately 60 active residential units located in the City of Niagara Falls and the Town of Wheatfield. Since the time of the area's initial habitation during the *1940's* up through the discovery of toxic chemicals at the site during the late 1970's, the Love Canal had been used solely for residential purposes. It possesses certain important environmental features including the +/- 25 acre NYSDEC regulated Class II wetland as well as the Black and Bergholtz Creeks. These features will be minimally impacted by implementation of the Preferred Alternative. Impacts to these resources were discussed in DGEIS Section 4.0. Mitigation measures were discussed in DGEIS Section 5.0.

The proposed action, acceptance and eventual implementation of the Preferred Alternative by the Love Canal Area Revitalization Agency, will be large in scale and will encompass most of the +/- 350 acre site. No development activity is planned for the fenced containment area of approximately 65 acres.

Therefore, even though impacts related to demolition of deteriorated housing units, removal of vegetation and trees, clearing and grading and creation of paved surfaces are unavoidable and irreversible, subsequent environmental reviews relating to site specific proposals will provide an opportunity to greatly mitigate the above actions.

Implementation of the Preferred Alternative will cause an eventual commitment of construction, economic and energy resources. Construction resources include concrete, steel, iron and other related materials and equipment. Economic resources are the funds to finance future site specific development projects within the EDA. Impacts on energy resources due to redevelopment and resettlement of the Love Canal EDA can be mitigated by the installation of energy efficient devices or systems in both the rehabilitated housing units and in any new commercial, light industrial or office unit construction at the site. Impacts upon energy resources are further discussed in FGEIS Chapter 10.

The impact associated with rehabilitation and construction at the site, although temporary, will span the next *3 to 10* years *due to the phased sale of housing units in Sub-Areas 4 and 5 and development of industrial office park uses in Sub-Areas 2 and 3.* Measures have been identified in FGEIS Chapter 5.0 to mitigate these impacts.

Regional impacts due to the redevelopment and resettlement of the Love Canal EDA are mixed. The economic implications are extremely beneficial to the City of Niagara Falls, the Town of Wheatfield and the Niagara Falls Region. The No Action Alternative is adverse in that no economic, social or other benefits will accrue to either municipality or to the remaining residents at the site. Community services can be supported without undue stress on existing service systems such as water, sewer, electric, gas, fire, police and other ancillary service oriented activities.

9.0 GROWTH INDUCING ASPECTS

9.0 GROWTH INDUCING ASPECTS

Growth inducing aspects include the direct growth attributable to a particular action. Growth inducing aspects resulting from the implementation of the Preferred Alternative at the Love Canal EDA are related to population, commercial/light industrial/office creation and site development potential. These are further clarified and described below. *Support documentation for Sections 9.4 through 9.6 can be found in FGEIS Appendix M entitled, "Growth Inducing Aspects Support Data."*

9.1 **Population**

The Preferred Alternative envisions the resettlement of the Black Creek Village area (Sub-areas 2 and 3) and 93rd Street. Located within these areas is a total of 253 housing units, which when resold, will be the most immediate source of new population at the Love Canal. A more long-term source of new population will occur in Sub-areas 6 and 7, the area identified in the Preferred Alternative for medium density Planned Unit Development (PUD).

In all probability the total residential population will not equal or exceed the resident population before the at the Love Canal emergency primarily due to the planned demolition of approximately 200 units of single family housing in Sub-areas 2 and 3. In its place, the Preferred Alternative envisions development of commercial, light industrial and office activities in Sub-areas 2 and 3.

The current population of the Love Canal EDA is approximately 200 persons. The direct population impact of resettlement activities at the Love Canal EDA will produce approximately 2600 new residents. This compares with approximately 2500 persons before the Love Canal emergency, as reported by LCARA.

9.2 **Commercial, Light Industrial And Office Development**

An area of light industrial, commercial and office development is occurring in the Town of Wheatfield along Williams Road, immediately adjacent to the Love Canal EDA to the east. The Summit Park Mall and the Summit Industrial Park have provided much of the impetus for development along the Williams Road corridor. The mall is located on the east side of Williams Road and has approximately 800,000 sq. ft. of stores.

In addition to the mall and industrial park, there is also an adjacent peripheral development including offices, movie theaters and commercial space. To the east of the mall is considerable apartment development and single family residential.

Implementation of the Preferred Alternative will directly induce further commercial, light industrial and office development activities in the area, primarily in EDA Sub-areas 2 and 3. Neighborhood commercial activities will be concentrated along Colvin Boulevard. Commercial activities are expected to create approximatly 155 jobs. Light industrial and office development will be centered further south of Colvin Boulevard (in the northern section of Sub-area 3) away from residential areas. Light industrial activities could produce approximately 1220 employees. Office development could produce approximately 1023 employees.

It is expected that by the time the Love Canal EDA is ready for commercial/light industrial occupancy, the Summit Industrial Park will be filled if present demand remains constant. The Love Canal EDA will be the most logical area in which to accomodate further light industrial and commercial growth due to its proximity to Williams Road and the new I-190 connection.

9.3 **Site Development Potential**

Implementation of the Preferred Alternative will proceed according to the phasing plan identified in FGEIS Chapter 2.0. A series of short and long-term activities have been identified which will guide development at the site until full development is achieved. Short-term activities include the resettlement of Black Creek Village and 93rd Street, improvements to EDA Sub- area 1 and buffering of the fence surrounding the containment area. These activities will proceed immediately upon acceptance of this FGEIS by all applicable parties.

Long-term activities (2+ years) include development of Sub-areas 2, 3, 6 and 7 as well as the 93rd Street School property. Present ownership of sub-areas 6 and 7 and the 93rd Street School property lies with the City of Niagara Falls Housing Authority and the City of Niagara Falls City School District, respectively. LCARA is to pursue the purchase of these parcels. If LCARA ownership of the above cannot be obtained, future development will be contingent upon each respective owner, with uses identified in the Love Canal Area Master Plan as a desired end.

9.4 Public Service Impact of New Population

The above increases in population and employment will have only margainal effects on the costs of providing public services. The City of Niagara Falls has suffered substantial out-migration in recent years. Between 1980 and 1987, Niagara County is estimated to have lost 11,139 residents, almost 5 percent of its population. The City of Niagara Falls accounted for a large share of the decline, losing 6,840 residents--fully 9.6 percent of its

population--between 1980 and 1986 (1987 estimates are as yet unavailable for the City of Niagara Falls). This loss of population has forced the City of Niagara Falls to spread the capital cost of public services over a shrinking tax base. Furthermore, the capital facilities maintained by the City, having once supported a substantially larger population, now have excess capcacity.

The impact on the school system will be more substantial. With declining enrollments during the early part of the decade, school buildings were closed. Many of the existing Niagara Falls schools presently are operating at capacity. Additional capacity will be required as a result of recent trends hightlighted by Mr. William Sado (See Appendix S).

9.5 Direct Income Effect on Niagara Falls

The direct income impact of the resettlement on Niagara Falls is estimated to be between $63 million and $76 million. This estimate is based on the assumption that the total sum of new income to the community will be less than the sum of new resident income and the income of workers at the light industrial, commercial and office developments. Justification for this can be found in FGEIS Appendix M.

9.6 Indirect Economic Effect on Niagara Falls

The indirect income effect of the Love Canal resettlement is estimated to be between $32 million and $38 million. This is calculated by using an output mulitplier with the estimated direct growth induced by the direct increase discussed above. The procedure used for estimation of the multiplier is provided in FGEIS Appendix M.

10.0 EFFECTS ON THE USE AND CONSERVATION OF ENERGY

10.0 EFFECTS ON THE USE AND CONSERVATION OF ENERGY

This section is a discussion of proposed energy sources as a result of the implementation of the Preferred Alternative, the demand for these resources and measures which will be taken to conserve energy.

10.1 **Proposed Energy Sources**

Electricity and natural gas for the proposed development will be supplied by the Niagara Mohawk Power Corporation and National Fuel Gas, respectively. Fossil fuels such as gasoline and diesel fuel will be supplied by local companies.

10.2 Short- and Long-Term Energy Demand

Short-term energy demands will result from the implementation of each phase of the Preferred Alternative. The most immediate activity to be undertaken at the Love Canal EDA will be the rehabilitation and selective demolition of some units in the Black Creek Village and 93rd Street areas which will require the use of fossil fuels for construction equipment.

Placement of buffering materials around the fenced containment area as well as landscaping improvements to Sub-area 1 will require minimal fossil fuel consumption to operate light construction equipment.

Long-term energy demands will result from the actual resettlement of the Black Creek Village and 93rd Street areas resulting in demand for electricity and/or natural gas for home heating, and fossil fuels for vehicle use.

In addition to the residential use of energy subsequent development of Sub-Areas 2, 3, 6 and 7 will place a demand upon energy resources. However, actual consumption will be dependent on the type of activity selected for development in each area and should be subject to appropriate environmental review when further site specific development is proposed.

The reuse of the 93rd Street School as an instructional facility will also place a demand on energy resources. The rehabilitation of the school will require use of fossil fuels for construction equipment and demand for electricity and/or natural gas for heating when the facility is ready for reuse.

Implementation of the Preferred Alternative will conserve energy resources. The Love Canal EDA is located in an inner urban context and will utilize existing structures. This will conserve fossil fuels by reducing commuting time and eliminating heavy equipment

which would be required for new construction. All buildings will be equipped with energy saving devices and technology.

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