

FINAL DRAFT

Broome County Environmental Management Council (EMC)
Brownfields Committee:

BROWNFIELDS INVENTORY AND RANKING PROJECT

SUMMARY REPORT

December 2004
Adopted January 6, 2005

Prepared for:
The Broome County Executive
&
Members of the Broome County Legislature

Authored and Prepared by:
EMC Brownfields Committee and EMC Staff

BACKGROUND

The EMC established their Brownfields Committee (the BFC) (then a subgroup of the Natural Resources Committee) in late 2000 to compile an inventory database of known and suspected brownfields in the County, establish potential ranking criteria and methodologies, and begin researching funding opportunities for their clean-up and redevelopment. A brownfield is defined by the EPA as “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.”

During the creation of Broome County’s Plan for Sustainable Economic Development (a.k.a. *The BCPlan*) in 2001, EMC committees collectively issued a set of land use recommendations that maintain and improve liveability, reduce urban sprawl, and maintain core communities by placing land recycling high on a priority order for redevelopment versus “greenfield” development. These comments became the framework for the Land Use Strategies component of The BCPlan and the catalyst for a more comprehensive approach to brownfields redevelopment in Broome County.

In 2002, the Broome County Legislature, per Permanent Resolution No. 02-300, authorized the acceptance of a U.S. Environmental Protection Agency (EPA) Brownfields Assessment Demonstration Pilot grant (the PILOT) for the Department of Planning and Economic Development. The intent is to use brownfield clean-ups as the centerpieces of Broome County’s economic revitalization by characterizing pollution, if any, at strategically located sites and facilitating their clean up. The EPA awarded the County \$200,000 in September 2002 to develop a brownfields assessment program that 1) creates a tool that County planners can use to evaluate environmentally contaminated sites for redevelopment potential, and 2) to conduct site characterizations, engineering evaluations and pre-remedial/redevelopment planning for brownfields sites throughout the County.

The EMC’s BFC is charged with assisting the PILOT oversight team (the County Brownfields Management Team) with executing certain aspects of the PILOT, including development and application of a site selection methodology and a community participation plan, among others. In early 2003, the BFC submitted their Draft Community Participation Plan to the EPA for approval. In March and April 2004, the EMC BFC held general community outreach meetings, including one at a local education event, the regional *Earth Fest*, to introduce the PILOT program concepts and the related Community Participation Plan county citizens.

It is the multi-pronged methodology devised and applied by the EMC BFC for the PILOT and the results of that exercise that are the focus of this report.

HISTORY OF BROWNFIELDS PLANNING IN BROOME COUNTY

Broome County EMC

The EMC's interest in brownfields spans many years. From 1979 - 1981, the EMC published a register of hazardous waste dumpsites in the County. The local registry resulted in many of these sites being listed and targeted for remediation under New York State's Superfund program.

In 2000, the EMC formed a Brownfields Sub-Committee of its Natural Resources Committee to gather data about known and suspected brownfields in the County for compilation into a modernized inventory and database. The Sub-committee set out to:

- develop a prioritized list of brownfield sites with significant redevelopment/revitalization potential,
- coordinate with local government and other agencies to help identify potential funding sources for investigation and cleanup of brownfields sites, and
- propose methodologies to aid local governments and economic development agencies with identification and acquisition of developable sites, while flagging those with significant liability potential.

The Sub-committee became a standing committee (the BFC) of the EMC in 2003 as the work plan of the group expanded to include elements of the PILOT. In the last four years, BFC membership has consisted of EMC members, local and state government representatives, and agencies, experts and members of the public that supply information, skills, and perspectives. A current listing of EMC members and EMC BFC members are identified in EXHIBITS 1 and 2.

The BCPlan

The County Department of Planning and Economic Development initiated *the BCPlan*, a Comprehensive Plan for Sustainable Economic Development, in late 2000 through a grant from the New York State Quality Communities Program. *The BCPlan*, adopted in late 2002, consists of an economic and demographic analysis, infrastructure assessment, target industry analysis, a land use strategy, and an action plan for Broome County's economic revitalization. One recommendation of the EMC and a conclusion of *the BCPlan* is that the County should revive existing urban centers, because of potential costly infrastructure expansions at existing corporate parks and a lack of shovel-ready urban land for development, which encourages sprawl. Furthermore, *The BCPlan* recommends that the large number and key locations of brownfield sites in the County will play a pivotal role in the creation of a network system of smaller business parks. The BFC's research and efforts naturally went hand-in-hand with the goal and objectives of *The BCPlan*.

BMTS Gateways and Visual Preference Survey

The Binghamton Metropolitan Transportation Study (BMTS), the local transportation planning organization, is continuing its analyses of urban area gateways, many of which are marked by abandoned and deteriorated properties that have a blighting influence on their neighborhoods and beyond their immediate surroundings. Recognizing that first visual impressions can negatively influence a community's sense of place, pride, and purpose, BMTS completed a Visual

Preference Survey in 2003 as a necessary first step in redeveloping blighted areas in key gateways. This too, marries well with the initiatives of *the BCPlan* and the work of the EMC's BFC.

Brownfield Assessment Demonstration Pilot

As a direct result of industrial downsizing and facility closures, the population of Broome County decreased by 10 percent over the past 30 years. Manufacturing employment declined by 40 percent since 1985, and since 1989, poverty rates have increased by 31 percent. The declining population and rising poverty rates are most pronounced in the urban core of the County, where underused or abandoned facilities have deteriorated, causing disinvestment by neighboring property owners and contributing to the area's economic decline. It is from this perspective that the County's objective to revitalize communities by redeveloping brownfields, which thereby would encourage reinvestment in blighted neighborhoods, came to pass.

The County received funding for the PILOT in late 2002 from the EPA while two major studies were already underway in the County: the BMTS Gateways Analysis and the Broome County Plan for Sustainable Economic Development (aka *The BCPlan*). To balance these ongoing studies, PILOT funding was earmarked for two purposes:

1. for the development of a tool that County planners can use to evaluate environmentally contaminated sites for redevelopment potential; and
2. to underwrite the cost of Phase I and Phase II environmental site assessments and conceptual end use plans for brownfield properties with redevelopment potential that occupy a prominent position in key gateway areas and have a blighting influence on the community; and/or site(s) that are described in *The BCPlan* as ideal locations for a proposed business park system.

The EPA considered several factors when evaluating Broome County's application for assessment PILOT funding. These included, the effect(s) of brownfields on the local community; the existing local commitment to and interest in brownfields problems; a means to address community involvement and environmental justice issues; an ability to identify sites or areas for assessment; a capacity to obtain ownership and/or access to brownfields; an ability to develop plans for their reuse, and the skill to demonstrate a link between the assessment program and the eventual cleanup of polluted areas. PILOT funding, awarded in 2002, is targeted for site assessment and pollution characterization at locations suspected or confirmed to be brownfields. The EMC BFC devised a site selection methodology and sets of ranking criteria to screen sites that meet EPA eligibility requirements for the PILOT.

New York State Brownfield Opportunity Areas Program

The State Brownfield Opportunity Areas (BOA) Program, enacted in October 2003, provides municipalities and community based organizations with assistance, up to 90 percent of the eligible costs, to complete area-wide brownfield redevelopment plans. Businesses investing in brownfields sites within a BOA are also eligible for substantial tax incentives. Although the BOA program did not exist at the inception of the Pilot, redevelopment activity within Brownfield Opportunity Areas is expected to be strong.

The Broome County Department of Planning prepared and submitted an application to the New York State Department of State for 'Brownfield Opportunity Area' funding in spring 2004. If approved, the County could receive \$155,000 in State funds for neighborhood planning services, in-depth building analysis, and end use planning in the two areas with the greatest concentration of brownfields in the County.

The proposed Broome County Brownfield Opportunity (BOA) areas consist of two sub-zones that represent significant gateways to the urban core, which is consistent with the goals of *The BCPlan*. The first area encompasses roughly 450 acres in the area termed the *Brandywine Corridor* (NYS Route 7, the Brandywine Highway, and the adjacent rail line) that is characterized by current and former industrial and heavy commercial land uses, and low-income housing. This area is bound by the Chenango River on the west, the rail line on the south and east ends, a portion of Broad Avenue on the east end, and a portion of Interstate 17 to the I-81 interchange up to Bevier Street on the north ends. The second area encompasses roughly 230 acres in the area termed the *Former EJ Industrial Spine*. This proposed BOA is located at the Binghamton-Johnson City border (at the site of the new Gannett facility), near Exit 71 off NYS Route 17, and extends into the central business district of the Village of Johnson City. It is characterized by abandoned Endicott-Johnson facilities, factories, and the Goodwill Theatre Arts District.

BROWNFIELDS INVENTORY & SITE RANKING METHODOLOGY

Inventory

The process of constructing a brownfields inventory database began in 2001 and continued through the better part of 2003. It was built and is currently maintained by the Department of Planning & Economic Development's Chief Planner. The database was compiled using existing public data, Sanborn fire insurance maps, interviews with key officials, historical and digital aerial photography, and tax assessor's records. Since May of 2002, the EMC BFC helped identify upwards of 80+ brownfield properties occupying over 2,100 acres. These properties include former dry cleaning facilities, metal forging plants, high-technology manufacturing facilities, pesticide storage areas, and dump sites. All are included in the in-house County Brownfields Inventory/Database.

To make best use of funds for site assessments under the PILOT, the EMC BFC devised specific evaluation criteria that would assist with the identification of high-economic value, low-environmental risk brownfield sites in the County. These criteria would also be used to promote the identification, characterization, and cleanup of sites with higher environmental risks that have significant redevelopment potential. After reviewing site ranking and prioritization approaches of other EPA Pilot program communities in the U.S. (see EXHIBIT 3), the BFC augmented the inventory data with economic development criteria (land use and development factors) such as highway access, zoning, and lot size; legal data such as ownership; and environmental and health factors – those related to human health and environmental benefits or avoidance of environmental and human health risks. The resulting database was geo-coded to match the County Planning Department's geographic information system (GIS). This work truly evolved

as the basis for the PILOT, establishing a tool for research and identification of sites to target for redevelopment.

Site Ranking

The EMC BFC formulated and adopted similar ranking factors to other EPA pilot localities, as mentioned above, but with important differences.

First, because decision-makers and other stakeholders have differing needs, the BFC did not wish to provide only a blended ranking of brownfield sites, reflecting a wide range of site attributes all melded together. Instead, the intention is that separate rankings are provided for each of three categories of attributes - (1) Environmental & Health factors; (2) Legal & Financial factors; and (3) Land Use & Zoning factors - so that site-related decisions can be related to the factors of greatest relevance in the context of the particular decision.

Second, the BFC wanted to avoid numerical rankings, which can give a misleading sense of mathematical precision. Instead, the “rankings” in each category yield a list of “top twenty” sites, presented as co-equal and not in any rank-order. In addition, two separate “rankings” in the category of Environmental & Health factors because sites with contamination issues tend to be approached from two diametrically different perspectives. Regulatory officials and neighbors tend to be primarily concerned with the degree of contamination and with cleaning up the most contaminated (or the most risky) sites first. Prospective purchasers and redevelopers tend to be interested in sites with the lowest levels of residual contamination and associated cleanup costs and liabilities. Two lists of “top twenty” sites in the Environmental & Health category were, therefore, generated: one reflecting the sites that are *most* in need of the cleanup; the other reflecting the sites facing the *fewest* environmental cleanup risks.

Lastly, it was recognized that socio-economic and other demographic considerations also need consideration from the standpoints both of (1) identifying those sites the cleanup and redevelopment of which will result in the greatest economic revitalization benefits; and (2) ensuring that brownfields redevelopment projects do not have disproportionate negative impacts on economically disadvantaged and minority residents. Such “environmental justice” considerations are currently the focus of EPA and DEC policies at the federal and state levels.

The process of developing and refining evaluation criteria to prioritize sites for redevelopment spanned roughly four years. The overall process of site ranking and evaluation, as the EMC BFC developed their four-pronged approach, is portrayed schematically in EXHIBIT 4 and each set of evaluation criteria outlined below.

- Environmental & Health Considerations – a Public Health Risk Assessment Methodology: Through the development of a hazard potential flowchart, this methodology establishes a letter grade for each site depending on whether the site has known or suspected contamination (negative grades signify suspected contamination); the level of known or suspected contamination (low vs. high), and the toxicity of known or suspected contamination (low vs. high). This methodology was established with major input from the Broome County Health Department’s (BCHD) Groundwater Specialist and a certified

Industrial Hygienist from the New York State Department of Transportation. The Groundwater Specialist, who is also a member of the BFC and the Brownfields Management Team overseeing the PILOT, determined the letter grades with input from the EMC BFC. These considerations also account for a probability of exposure for different populations (construction workers, residents, industrial employees, commercial employees or visitors) and the route of exposure (surface water, ground water, soil surface, soil subsurface or soil gas). For a detailed explanation of this methodology, please see EXHIBIT 5 – Site Ranking Methodology: Environmental & Health Considerations.

- Legal & Financial Considerations: This methodology accounts for each site's ownership (public or private), and each site's physical status (vacant, occupied, or under occupied building).
- Social & Demographic Considerations: The EMC BFC chose to assign a list of important social and demographic factors from 2000 US Census block group data to each site for the site evaluation process, which will be available in the County's Brownfields Database as a demographic scorecard. Sites will not be ranked by this consideration alone, but rather the considerations will be used as a tool to help identify sites that will result in the greatest economic revitalization benefits if chosen for cleanup and redevelopment, as well as ensure that brownfields redevelopment projects do not have disproportionate negative impacts on economically disadvantaged and minority residents. Social and demographic factors found in the database include: total population, population density, number of housing units, percent nonwhite, residential vacancy rate, per capita income, poverty rate, percent of families below poverty with children under 5 years of age, and unemployment for each site's block group, and a comparison of each.
- Land Use & Development Considerations: This methodology accounts for each site's contiguous acreage, proximity to highway access, viability of utility access, zoning status, Empire Zone status, and EnZone status. (See EXHIBIT 6)

Sites Recommended for EPA Pilot Assessments

Beginning in early spring 2004, the EMC BFC finalized its site selection criteria and applied each category of criteria to every site in the database. Seven (7) properties were identified to potentially be addressed using assessment PILOT funding. The sites have varying degrees of known or suspected site contamination, represent a diversity of socio-economic criteria, are either vacant or under-utilized, and are either County-owned or have redevelopment potential (See Table A below). Four (4) of the seven (7) aforementioned properties also lie within the boundaries of the areas recently nominated by the County as potential New York State Brownfield Opportunity Areas (BOAs) in Binghamton and Johnson City.

Table A - Sites Recommended for EPA Pilot Assessments

Site Name	Municipality	Identified for Redevelopment `in <i>The BCPlan</i>	Located In Key Gateway	Blighting Influence
Former Endicott Forging & Mfg Co.	Village of Endicott	✓		✓
Former Chenango Industries *	Village of Endicott			✓
Former Rivco tank site	Village of Johnson City		✓	
Former EJ Victory Building **	Village of Johnson City	✓	✓	✓
Former TK Lawn & Hardware **	Village of Johnson City	✓		✓
Former Philips Foundry, Inc. **	City of Binghamton	✓	✓	
DOT Equipment Management Building **	City of Binghamton	✓	✓	

* Currently approved for EPA assessment PILOT funding and approved for Environmental Restoration Program funding (authorized by the 1996 Clean Air/Clean Water Act) from the New York State Department of Environmental Conservation (NYSDEC).

** Sites located within proposed boundaries of areas recently nominated by Broome County as a New York State Brownfield Opportunity Areas (BOAs).

The EMC BFC formalized results of their site selection exercise in an advisory resolution to the Brownfields Management Team for their consideration (see EXHIBIT 7). Property characteristics for sites recommended by the EMC BFC for funding under the PILOT are displayed in EXHIBIT 8.

Next Steps

During 2005, the EMC BFC will continue to meet regularly (monthly, as needed) to fulfill their responsibilities under the PILOT, including monitoring PILOT progress and providing guidance to the Brownfields Management Team, in addition to citizen participation obligations as defined by the EPA. These activities will include conducting a series of public meetings to keep the public-at-large familiar with and up to date on the activities related to the PILOT.

For each of the affected communities eventually targeted by the PILOT, two public meetings will be conducted; one pre-assessment and one post-assessment, to ensure conceptual redevelopment ideas are compatible with community goals. The public will have opportunities to share information they know about a targeted site or cluster of sites before an environmental site assessment (Phase I and II) is undertaken. One exception to the pre- assessment meeting scenario may be the former Chenango Industries site (aka 312 Maple St, Endicott), a county-owned property that is currently undergoing an investigational assessment under the New York State Environmental Restoration Program. This site specific investigation under the PILOT will complement investigational assessments already in progress. Those targeted communities will

also have opportunities to hear the results of the completed environmental site assessment and provide their feedback in a second community meeting.

The EMC BFC will continually identify stakeholders that may have an interest in the PILOT program. The EMC will use their extensive mailing and email outreach lists to inform individuals, community groups and agencies, and government entities about opportunities for involvement in brownfield decision-making and redevelopment plans. The Brownfields Management Team and the BFC will specifically identify individual landowners and neighborhood stakeholders adjacent to and in the surrounding area of a targeted brownfield using real property tax information records and GIS applications. These individuals, groups, and entities will be added to community outreach mail lists.

Planning & Economic Development staff and municipal officials will continue to conduct meetings with property owners of likely PILOT sites. Based on the outcome of these meetings, they too, will prepare a list of candidate sites for consideration by the Brownfields Management Team.

Created 10/04
Revised 11/04
Edited 11/05

EXHIBITS

Exhibit 1: Mission and Membership – Broome County Environmental Management Council

Exhibit 2: Membership - EMC Brownfields Committee

Exhibit 3: Potential Site Ranking Criteria (11/16/00)

Exhibit 4: Brownfields Prioritization for Site Ranking and Selection

Exhibit 5: Site Ranking Methodology: Environmental & Health Considerations

Exhibit 6: Site Ranking Methodology: Land Use & Development Factors

Exhibit 7: EMC Advisory Resolution – Potential Sites to Consider for Inclusion in the PILOT

Exhibit 8: Property Characteristics of sites recommended by the EMC BFC for the PILOT:
Summary Ranking - November 2004

EXHIBIT 1

Broome County Environmental Management Council (EMC)

The Broome County Environmental Management Council (EMC) has advised County and local government on environmental matters since 1971. The local citizen volunteer environmental advisory board gathers and inspects environmental information and makes policy recommendations to County government. The Council also helps identify and draw attention to environmental concerns through public participation and education programs.

2004 Membership

MEMBERS-AT-LARGE (voting)

Douglas Garner
Duke Holdsworth, EMC Chair and Landfill CAC Rep.
David Weitzman, Recycling and Waste Management Committee Chair
Terry Woodnorth, Natural Resources Committee Chair
Andre LaClair, EMC Vice-Chair
Anthony (Tony) Lubzanski
Mary Cronk
Lisa Hoffman
William (Bill) Heaviside
Herman Roberson

STUDENT REPRESENTATIVES (voting)

Joseph Liciandrello, Broome Community College and Jacklyn Beebe, Binghamton University
Vacant - area high school

CONSERVATION ADVISORY COMMISSION (CAC) REPRESENTATIVES (voting)

Cynthia Westerman, Town of Vestal CAC and EMC Brownfields Committee Chair
Eileen Patch, Town of Union CAC, and
Marion Percik, Town of Dickinson CAC

SPECIAL REPRESENTATIVES (voting)

Kevin Mathers, Cornell Cooperative Extension of Broome County, and
Charles (Chip) McElwee, Broome County Soil and Water Conservation District

EX-OFFICIO MEMBERS (non-voting)

Commissioners of Public Works, Environmental Health, Solid Waste Management, and
Planning & Economic Development

LEGISLATIVE REPRESENTATIVES (non-voting)

Brian Brunza and Chris W. Burger

ASSOCIATE MEMBERS (non voting)

Franklyn Cism, Kenneth Kamlet (former EMC Brownfields Committee Chair),
Richard (Rick) Kumpon, Ruth Levin, Anndrea Starzak, and
R. Timothy Wolcott

STAFF

Stacy Merola, Sr. Environmental Planner and EMC Director, and
Jeremy Magliaro, EMC Environmental Analyst

EXHIBIT 2

Broome County Environmental Management Council (EMC)

Brownfields Committee (BFC) Members

Cynthia Westerman, BFC Chair and Vestal Conservation Advisory Commission Representative

Robert Augenstern, Director, Southern Tier East Regional Planning & Development Board

Joel Boyd, Assistant Director, City of Binghamton Economic Development

Ronald Brink, Groundwater Specialist, Broome County Health Department

Mary Brophy, PHD, CIH, CPE and Landscape & Environmental Design Division, New York State Department of Transportation

Susan Cummins, Biochemist, GeoLogic NY, Inc.

Frank Evangelisti, Chief Planner, Broome County Planning & Economic Development

Douglas Garner, EMC Member-at-Large and Plant Service Manager and North America Environment, Safety and Health Lead, BAE Systems

Joseph Graney, former EMC Member-at-Large and Geology Professor, Binghamton University

Kenneth S. Kamlet, EMC Associate Member, former BFC Chair, and Esquire, Newman Development Group

Richard Kumpon, EMC Associate Member and Project Scientist, O'Brien & Gere Engineers

Jeremy Magliaro, EMC Environmental Analyst

Charles (Chip) McElwee, Director, Broome County Soil & Water Conservation District and EMC Special Representative

Stacy Merola, Senior Environmental Planner and EMC Director

Joseph Moody, Town of Union Economic Development

Robert C. Murphy, Esquire, Pope, Schrader, & Murphy, LLP

Herman Roberson, EMC Member-at-Large and Professor Emeritus, Binghamton University

Tom Suozzo, Project Manager, New York State Department of Environmental Conservation

EXHIBIT 3

Broome County Environmental Management Council
Natural Resources Committee - Brownfields (Sub)Committee

Potential Site Ranking Criteria (11/16/00)

Criterion*	Used By	Commentary
Marketability (near-term redevelopment potential) [LP]	Buffalo, Knoxville, Rhode Island	
Potentially interested developers [LP]	Worcester (MA), Bridgeport (CT)	
Size of contiguous site , size of existing building(s) if reusable [LP]	Buffalo, Rochester, Knoxville, Worcester (MA)	
Available or planned infrastructure [LP]	Buffalo, Knoxville, Worcester (MA)	
Proximity to transportation, workforce and utilities [LP]	Rochester	
Site access [LP]	Worcester (MA)	
Zoning [LP]	Knoxville	
Geotechnical suitability [LP]	Rochester	May not be readily apparent.
Community need for revitalization [LP]	Buffalo, Rochester [for EZ sites]	Probably a given throughout this area.
Waterfront revitalization potential [LP]	Rochester	
Site ownership status (private vs. public, etc.) [L/F]	Buffalo, Knoxville, Worcester (MA)	
Anticipated level of owner cooperation [L/F]	Bridgeport (CT)	
Site has viable business [L/F]	Knoxville	
Site acquisition costs [L/F]	Buffalo	
Potential for active local government role in direct funding or ownership [L/F]	Rochester	
Income potential from future leasing (or sale) [L/F]	Worcester (MA)	
Assessed value [L/F]	Rochester	
Site financial condition (in arrears, foreclosure, etc.) [L/F]	Buffalo, Wisconsin	
In economic development zone? [L/F]	Buffalo	
Availability of financial incentives for assessment, cleanup [L/F]	Rochester	
Site characteristics vs. available funding sources	EMC Brownfields Subcommittee (meeting of 11/16/00)	
Amount of existing environmental data [E]	Buffalo	May be difficult to assess
Threat posed to human and/or environmental health [E]	Buffalo	May be difficult to assess
Presence of viable owner and potential for private cleanup [E]	Rochester, Worcester (MA)	
Existing focus of regulatory attention? [E]	KKamlet	Found to be of low risk vs. regulatory target?

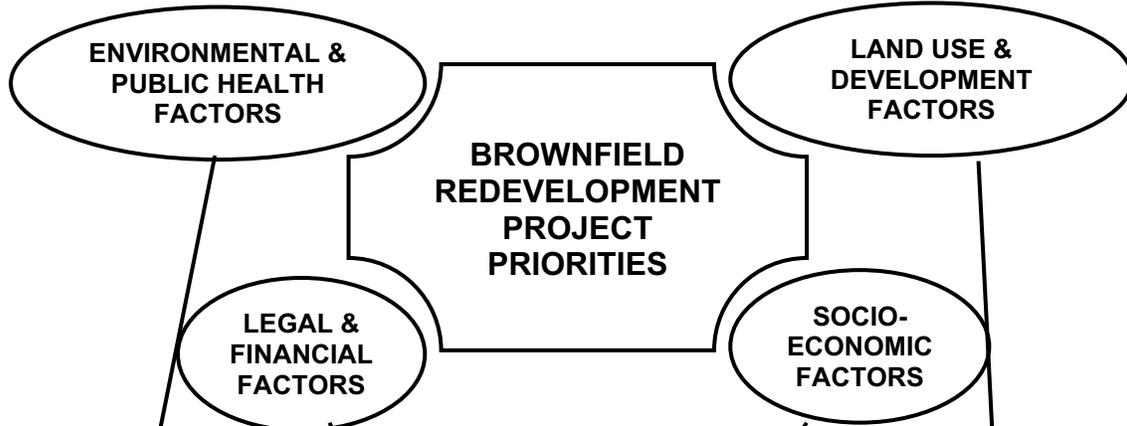
*LP = land use planning and development; L/F = legal/financial; E = environmental/public health

EPA Brownfield Pilot site projects were reviewed for ones that included ranking and prioritization elements. The factors addressed in the ranking process were tabulated by locality and classified into the three indicated categories (LP, L/F and E)

EXHIBIT 4

Broome County Environmental Management Council
Brownfields Committee

Brownfields Prioritization for Site Ranking and Selection



CONSIDERATIONS			
<p>Those related to human health & environmental benefits Or the avoidance of human health & environmental risks</p>	<p>Those related to property ownership and occupancy status</p>	<p>Those related to demographic and environmental justice issues</p>	<p>Those related to land uses, zoning, and basic development factors</p>
<p>Suspected vs Confirmed Hazard - If confirmed hazard: * Solid waste and non-toxic (A) * Low levels and low toxicity (B) * Low levels/high toxicity or high levels/low toxicity (C) * High levels and high toxicity (D) - If suspected hazard: * Solid waste and non-toxic (B-) * Low levels and low toxicity (C-) * High levels or high toxicity (D-)</p> <p>Route of Exposure * Surface Water (V) * Groundwater (W) * Surface soil (X) * Sub-surface soil (Y) * Soil gas (Z)</p> <p>Site User Activity * Construction/utility worker * Residents * Industrial and commercial workers * Visitors</p>	<p>Public Ownership * Yes/No * Delinquent</p> <p>Site Status * Vacant * Occupied * Under occupied</p>	<p>2000 US Census block group data comparisons * Total population</p> <p>* Population density</p> <p>* Number of housing units</p> <p>* Residential vacancy rate</p> <p>* Per capita income</p> <p>* Poverty rate</p> <p>* Percent of families below poverty w/ children under 5</p> <p>* Unemployment</p>	<p>Contiguous Acreage * 30 (A), 20-30 (B), 10-20 (C), 1-10 (D) Less than 1 (E)</p> <p>Highway Access * Within 100' Of Ramp (A) 500' (B), 0.25-mile (C), 0.5-mile (D), 1 mile (E), more than 1 mile (F)</p> <p>Utility Access (W,S, NG) * Yes/No</p> <p>Absence of Major Capacity or Tie-In Issues * Yes/No</p> <p>Zoning Status * Both industrial and commercial allowed * Industrial or commercial only * Neither industrial nor Commercial</p> <p>"EnZone" Status * Yes/No</p> <p>"Empire Zone" Status * Yes/No</p>

EXHIBIT 5

Broome County Environmental Management Council Brownfields Committee Site Ranking Methodology: Environmental & Health Considerations

(4/17/02; rev. 1/9/04, 11/05)

One of the ways to rank properties identified as brownfields is based on a **public health risk assessment**. The risk assessment methodology used should be scientifically based and transparent so that everyone interested in the process understands it.

The **risk** of adverse health effects depends on the **toxicity** of the substance and the **exposure** of an individual to that substance. **Exposure** requires that there is a **route** or **pathway** through which the individual comes in contact with the substance. Since people are expected to occupy a redeveloped brownfield site, it is assumed that there will be a **receptor**. The three key elements evaluated in assessing risk are, thus: (1) the toxicant, (2) the route, and (3) the receptor (human).

To facilitate risk assessment at brownfield redevelopment sites, this methodology evaluates the **hazard potential**. The **hazard potential** depends on both the **toxicity** and the **amount of contaminant** present. The hazard potential is reflected in a letter grade from A to D, with A representing sites with the least hazard potential and D representing sites with the greatest hazard potential.

Because the information available about contaminants at brownfield sites is extremely variable, the first step in characterizing the toxicity is to evaluate the type of information. Sites where there is no quantitative information (“suspected site”) have more uncertainty associated with them and are signified by a minus sign after the assigned letter grade. For example: a dump site that has not been used for many years and at which there has been no sampling, or a foundry at which there has been no surface or subsurface sampling performed. These sites are ranked as B-, C-, or D-.

Table 1 - Hazard Potential Rankings for Sites Lacking Quantitative Information

Hazard Potential Ranking *	Characteristics
B-	solid waste/non-toxic
C-	low levels and low toxicity
D-	high levels or high toxicity

* Letter rankings assigned to particular sites do not necessarily reflect the potential health risk to users of the site.

Sites where sampling has been performed and there is quantitative information about the contamination have less uncertainty and are ranked A, B, C, or D (without the minus sign), depending on the toxicity and the amount of contamination present.

Table 2 - Hazard Potential Rankings for Sites With Quantitative Information

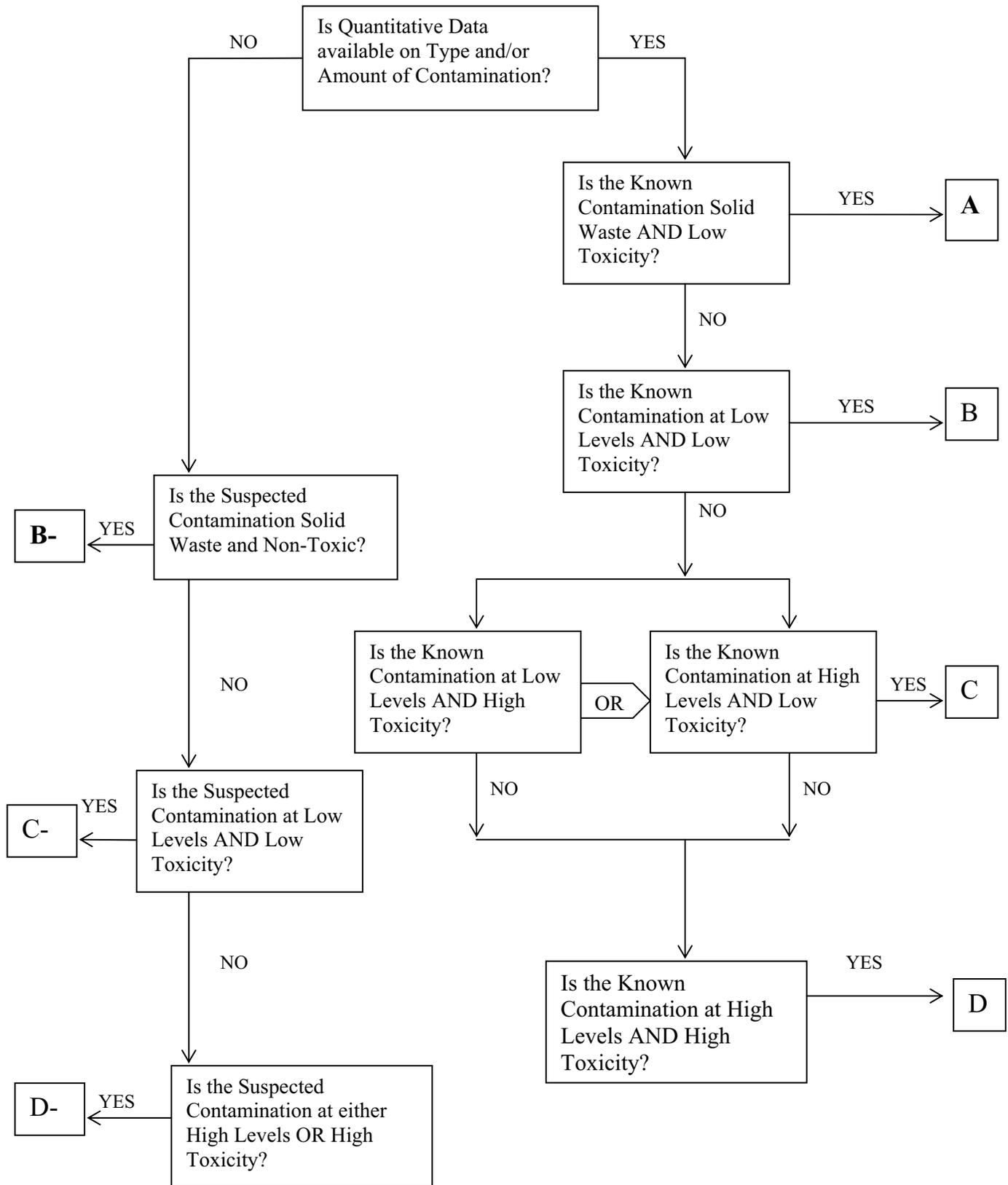
Hazard Potential Ranking *	Characteristics
A	solid waste/low toxicity
B	low levels and low toxicity
C	low levels/high toxicity or high levels/low toxicity
D	high levels/high toxicity

* Letter rankings assigned to particular sites do not necessarily reflect the potential health risk to users of the site.

Hazard potential analysis can be seen in the following flow diagram (Diagram 1), below:

Diagram 1 - Hazard Potential Flowchart

Broome County Environmental Management Council - Brownfields Committee



Health risks depend not only on the site's overall **hazard potential** (as reflected by its assigned letter grade), but also on the **exposure potential** for the contaminants of concern. **Exposure** depends on the **contaminant location**, their **physical properties**, and the **duration of exposure** (i.e., how long a user is on the site). Physical properties will influence whether contaminants adhere to soil particles, migrate into groundwater or volatilize into soil gas.

Exposure potential at a brownfield redevelopment site depends both on **contaminant location** (see Table 3, below) and on **site user activity**. Construction workers and utility people are generally at greater risk than visitors to or inhabitants of the site after it has been developed. Use of appropriate barriers will offer protection to future occupants, but not to the people installing the barriers. Whether people live at the site or simply work at the site affects their **exposure potential**. The relationship between the **exposure route** and the **site user activity** is summarized in Table 4, below:

Table 3 - Location of Contaminant(s)/Exposure Routes

Classification	Contaminant Location	Most Likely Exposure Route
V	Surface Water	Dermal
W	Groundwater	Ingestion, dermal, inhalation
X	Surface Soil	Ingestion, dermal
Y	Sub-surface Soil	Dermal
Z	Soil Gas	Inhalation

Table 4 - Exposure Potential at a Brownfield Site

Site User	Surface Water Route (V)	Groundwater Route (W)	Soil Surface Route (X)	Soil Subsurface Route (Y)	Soil Gas Route (Z)
Construction/Utility Worker	Maybe	Likely	Likely	Likely	Likely
Residents	Likely	Unlikely*	Likely	Maybe	Maybe
Industrial/Commercial Employee	Unlikely	Unlikely*	Likely	Maybe	Maybe
Visitors/Shoppers	Unlikely	Unlikely*	Maybe	Unlikely	Maybe

*Assumes public water supply

Exposure potential also depends on **engineering controls** (i.e. barriers - impermeable and/or vapor), **institutional controls** (i.e. deed restrictions), or **personal protection equipment** (i.e. respirators and protective clothing).

Because brownfield cleanup levels may not fully meet the needs of specified potential future uses, it is critical to be aware of exposure routes. Based on future uses, protective barriers may need to be installed and/or upgraded at brownfield sites.

The final **risk assessment** takes into consideration both the **hazard potential** and the **exposure potential** and places the **risk** into three bands of high, medium, or low risk (see Table 5, below).

Table 5 - Health Risk Assessment at Redeveloped Brownfield Sites

Site Hazard Potential Ranking	Visitors	Employees	Residents	Construction/Utility Workers
A	Low	Low	Low	Low-Medium
B	Low	Low	Low-Medium	Low-Medium
B-	Low	Low	Low-Medium	Low-Medium
C	Low	Low-Medium	Medium	High
C-	Low	Medium	Medium	High
D	Low-Medium	Medium-High	Medium-High	High
D-	Medium	High	High	High

End note:

This methodology was established by the EMC’s Brownfields Committee (BFC) with major input from the Broome County Health Department’s (BCHD) Groundwater Specialist, Ron Brink and Mary O’Reilly Brophy, PHD, CPE, CIH (Certified Industrial Hygienist) from the New York State Department of Transportation (NYSDOT). Ron Brink, a member of the BFC and the Brownfields Management Team overseeing the EPA Brownfields Assessment PILOT, determined the letter grades with contribution from the EMC BFC.

In March 2004, Ron Brink and Mary Brophy presented these Environmental & Health considerations as a Public Health Risk Assessment Methodology (a risk banding approach to brownfield prioritization) at a National Institute of Occupational Safety & Health (NIOSH) Control Banding conference in Ohio.

EXHIBIT 6

Broome County Environmental Management Council
Brownfields Committee

Site Ranking Methodology: Land Use and Development Factors SCORING WORKSHEET

(6/14/04)

Contiguous Site Acreage	Points	Distance to Highway Access	Points	Utility Access	Points
Over 30 acres	100	100 feet	100	Sewer	33
20 – 30 acres	90	500 feet	90	Water	33
10 – 20 acres	70	¼ mile	70	Natural Gas	33
1 - 10 acres	50	½ mile	50	Total:	[]
< 1 acre	0	1 mile	20		
		> 1 mile	0		
Acreage points allotted:	[]	Highway Access points allotted:	[]	Utility Access points allotted:	[]
Total allotted points: [] ÷ 3 = Average Points []					

Average Points	Equivalent Letter Grade	Letter Grade (+) or (-)*
Over 80	A	
65 to 80	B	
60 to 64	C	
Under 60	D	
<p>*Letter scores (+) and (-) indicate if a site is located within a New York State designated En-Zone or Empire Zone</p> <p>(+) = Located within En-Zone <u>and</u> Empire Zone</p> <p>neutral: = Located in 1 of either En-Zone <u>or</u> Empire Zone</p> <p>(-) = Located in <u>neither</u></p> <p><u>En-Zones</u>, as defined by the NYS, are census tract and block numbering areas that have, as of the 2000 census, a poverty rate of at least 20% and an unemployment rate of at least 1.25 times the statewide average.</p> <p><u>Empire Zones</u>, as defined by NYS, are designated areas throughout the State that offer special incentives to encourage economic and community development, business investment and job creation.</p>		

EXHIBIT 7

Broome County Environmental Management Council Brownfields Committee

RESOLUTION URGING THE COUNTY BROWNFIELDS MANAGEMENT TEAM TO CONSIDER BROWNFIELDS PROPERTIES FOR INCLUSION IN THE COUNTY BROWNFIELD ASSESSMENT DEMONSTRATION PILOT

WHEREAS, in 2000, the Environmental Management Council (EMC) established a Brownfield Subcommittee (the Committee) to develop and prioritize a list of high-economic value, low-environmental risk brownfield sites in the County, and to promote the identification, characterization, and cleanup of sites with higher environmental risks that have significant redevelopment potential, and

WHEREAS, the Committee drafted a four-pronged site ranking methodology for evaluating brownfield properties that incorporate environmental and public health factors, legal and financial factors, land use and development factors, and socio-economic factors, and,

WHEREAS, the Broome County Legislature, per Permanent Resolution No. 02-300, authorized the acceptance and submission of an application for a U.S. Environmental Protection Agency (EPA) Brownfields Assessment Demonstration Pilot Grant for the Department of Planning and Economic Development, and

WHEREAS, in fall 2002, the Department of Planning and Economic Development was awarded the EPA grant to conduct a County Brownfield Assessment Demonstration Pilot (BAP) that would be administered by a County Brownfields Management Team, and

WHEREAS, the EMC Committee is charged with assisting the Brownfields Management Team with executing certain elements of the BAP, including application of a methodology for site selection and community participation, among others, and

WHEREAS, the Committee applied their methodology and identified seven (7) properties that meet criteria for site inclusion under the BAP that have varying degrees of known or suspected site contamination, represent a diversity of socio-economic criteria, are either vacant or under-utilized, and are either County-owned or have potential for redevelopment, and

WHEREAS, four (4) of the seven (7) aforementioned properties also lie within the boundaries of areas recently nominated by the County as potential New York State Brownfield Opportunity Areas (BOAs) in Binghamton and Johnson City, now, therefore be it

RESOLVED, that the EMC hereby urges the County Brownfields Management Team to consider the brownfield properties annexed hereto as Exhibit "A" for inclusion in the County Brownfield Assessment Demonstration Pilot, and be it

FURTHER RESOLVED, that this advisory resolution be distributed to Brownfields Management Team.

SM/jm
9/7/04 rev.

**RESOLUTION URGING THE COUNTY BROWNFIELDS MANAGEMENT TEAM TO
CONSIDER BROWNFIELDS PROPERTIES FOR INCLUSION IN THE COUNTY
BROWNFIELD ASSESSMENT DEMONSTRATION PILOT
EXHIBIT "A"**

EMC Record	Property Name	Municipality
85	TK Lawn and Hardware	Johnson City
73	Phillips Foundry, Inc.	Binghamton (City)
103	NYSDOT Equipment Management	Binghamton (City)
1	Endicott Forging and Manufacturing, Co.	Endicott
5	Former Chenango Industries	Endicott
30	Rivco Site	Johnson City
84	EJ Victory Building	Johnson City

EXHIBIT 8

Broome County Environmental Management Council Brownfields Committee

(see next two pages)

Record Number Summary Ranking - November, 2004

Record Number	Name:	Persons Per Sq. Mile	Residential Vacancy Rate	Per Capita Income	Poverty Rate for Individuals	Poverty Rate for Families w/ Children under 5	Unemployment Rate
30	<p>Name: Rivco Site</p> <p>Owner: Craig Fritzsich</p> <p>Municipality: Johnson City</p> <p>Legal and Financial Factors Ranking: Zoning: AC-Conservation Foreclosure Publicly Owned</p> <p>Site Status: Vacant Lot</p> <p>Land Use and Development Factors B - Environmental and Public Health Rank D</p>	1,292	7.2%	\$26,148	5.1 %	0 %	1.8%
1	<p>Name: Endicott Forging & Mfg Co.</p> <p>Owner: Endicott Forging & Mfg. Co.</p> <p>Municipality: Endicott</p> <p>Legal and Financial Factors Ranking: Zoning: Industrial Foreclosure Publicly Owned</p> <p>Site Status: Underoccupied Bldg</p> <p>Land Use and Development Factors B Environmental and Public Health Rank D-</p>	4,886	19.0%	\$14,717	23.9 %	15.4 %	7.1%
5	<p>Name: Former Chenango Industries</p> <p>Owner: County of Broome, c/o Commissioner of Finance</p> <p>Municipality: Endicott</p> <p>Legal and Financial Factors Ranking: Zoning: Industrial Foreclosure Publicly Owned</p> <p>Site Status: Underoccupied Bldg</p> <p>Land Use and Development Factors D Environmental and Public Health Rank D-</p>	6,390	9.8%	\$17,741	22.9 %	31.2 %	6.6%
84	<p>Name: EJ Victory Building</p> <p>Owner: Danny Planavsky</p> <p>Municipality: Johnson City</p> <p>Legal and Financial Factors Ranking: Zoning: CG - General Commercial Foreclosure Publicly Owned</p> <p>Site Status: Underoccupied Bldg</p> <p>Land Use and Development Factors B + Environmental and Public Health Rank C-</p>	5,966	12.8%	\$12,912	28 %	53.2 %	9.5%

Record Number Summary Ranking - November, 2004

Record Number	Name:	TK Lawn & Hardware	Persons Per Sq. Mile	Residential Vacancy Rate	Per Capita Income	Poverty Rate for Individuals	Poverty Rate for Families w/ Children under 5	Unemployment Rate
85	Owner: Danny Planavsky Municipality: Johnson City Legal and Financial Factors Ranking: Site Status: Underoccupied Bldg Land Use and Development Factors	Zoning: IN - Industrial Foreclosure Publicly Owned C + Environmental and Public Health Rank C-	5,966	12.8%	\$12,912	28 %	53.2 %	9.5%
73	Name: Phillips Foundry, Inc. Owner: Phillips Foundry, Inc. Municipality: Binghamton (City) Legal and Financial Factors Ranking: Site Status: Underoccupied Bldg Land Use and Development Factors	Zoning: IND - Industrial Foreclosure Publicly Owned B + Environmental and Public Health Rank C-	4,090	20.4%	\$10,793	35.1 %	46.5 %	12.9%
103	Name: DOT Equipment Management Owner: State of New York (DOT and OGS) Municipality: Binghamton (City) Legal and Financial Factors Ranking: Site Status: Underoccupied Bldg Land Use and Development Factors	Zoning: IND - Industrial Foreclosure Publicly Owned B Environmental and Public Health Rank	5,414	12.3%	\$14,156	26.7 %	50.7 %	8.6%