

# City of Binghamton Partnerships for Change

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## **Moving Toward Sustainability: An Opportunity for Growth and Prosperity**

Commission on Sustainable Development and  
Smart Growth

March 2009

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## Executive Summary

To further the City of Binghamton's commitment to sustainable development and engage public participation, the Mayor and City Council convened the Commission on Sustainable Development and Smart Growth on April 3, 2008. This report offers the Commission's recommendations for actions and initiatives the City should undertake to improve its long-term health and viability and become a more sustainable community.

To guide its work, the Commission developed the following definition for sustainable development:

*Development which meets the needs of the present at the same time as safeguarding and improving economic, social and environmental resources and the ability of future generations to meet their own needs.*

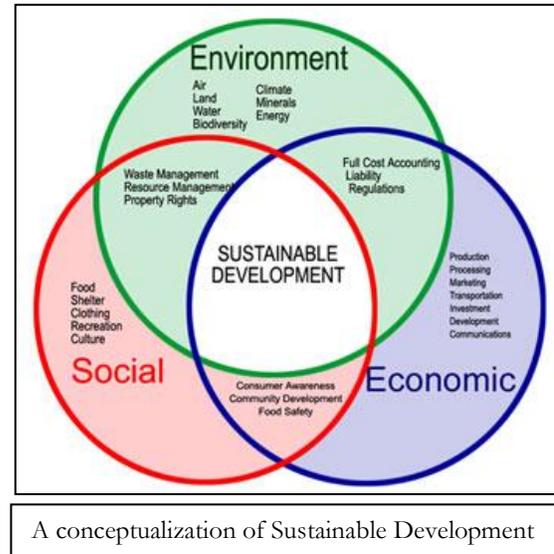
Once a working definition of sustainable development and a set of smart growth principles were agreed upon, the Commission moved forward to research best practices and recommend actions the City should take to become more sustainable and to pursue Smart Growth. The recommendations fall into the following broad categories:

1. Reducing the City's contribution to climate change by joining the ICLEI – Local Governments for Sustainability's Cities for Climate Protection (CCP) campaign.
2. Embracing Smart Growth principles by integrating SmartCode into City planning, policy and code, in an incremental process.
3. Undertake a review and reform of the City's municipal code to improve stormwater management.
4. Increase and expand efforts toward illicit discharge detection and elimination.
5. Encourage the preservation, renovation and adaptive reuse of existing buildings.
6. Promote green building practices.
7. Encourage construction and demolition material reuse and recycling.
8. Promote economic development in ways that produce livable jobs, strengthen low and moderate-income communities, and protect the natural environment.
9. Support locally owned businesses.

There is no time to waste. The City of Binghamton can and should choose to initiate action on climate change rather than wait and be dragged toward compliance with future State and Federal law. Movement toward climate protection and preservation and improvement of city resources should be a prioritized criterion in all City decisions. The City of Binghamton's maxim should be this: *moving toward sustainability is an opportunity for growth and prosperity.*

## I. Introduction

The vision for a sustainable Binghamton requires the balancing of economic development with environmental security and social equity. It also requires long-term views of each one of these three elements that is adjusted as actual conditions and information change. The vision of a sustainable Binghamton recognizes the city's unique centrality to the area and therefore the leadership role that it can play in the broader region by example and in cooperation with other municipalities, county and state agencies.



In his vision statement for the City of Binghamton, Mayor Matt Ryan states that his goal for the City is that it “supports sustainable, integrated development” and “be a vibrant community of healthy neighborhoods that honor tradition, welcome diversity and provide a sense of security for citizens of all ages and walks of life”. In this spirit the Mayor signed the U.S. Conference of Mayors Climate Protection Agreement on April 19, 2007. Under the Agreement, participating cities commit to take the following three actions:

- Strive to meet or beat the Kyoto Protocol targets in their own communities, through actions ranging from anti-sprawl land-use policies to urban forest restoration projects to public information campaigns
- Urge their state governments, and the federal government, to enact policies and programs to meet or beat the greenhouse gas emission reduction target suggested for the United States in the Kyoto Protocol -- 7% reduction from 1990 levels by 2012.
- Urge the U.S. Congress to pass the bipartisan greenhouse gas reduction legislation, which would establish a national emission trading system

The Ryan administration has already taken a range of steps toward the goals outlined in the agreement. For example, with City Council's support, the administration created a Tree Fund and

reinstated a Shade Tree Commission in order to meet the Mayor's promise of boosting tree plantings by 10% annually over the next five years. The administration's new Recycling Enhancement Program aims to increase the City's rate of recycling, which reduces green house gas emissions. In addition, the administration has pledged to add green vehicles to the City's fleet when possible. And, with a range of co-sponsors, the administration organized a seminar on sustainability as part of long-term plans for developing a sustainability Action Plan and a Sustainability Task Force of community stakeholders. More recently the administration in cooperation with city merchants and business owners launched the "*Think Independent – Buy Local in Downtown Binghamton*" campaign to promote the sustainable practice of buying local.

To further the City's commitment to sustainable development and engage public participation, the Mayor and City Council convened the Commission on Sustainable Development and Smart Growth on April 3, 2008. Under the *Partnership for Change* initiative, this and three additional Commissions (the Commission on Personnel Costs, the Commission on Sanitation, and the Commission on Housing and Homeownership) were asked to address what the Mayor considers four of the most pressing issues of municipal finance. The Commission on Sustainable Development and Smart Growth was charged to:

- Research best practices in sustainable development and smart growth, compare them with current City Code, and make recommendations for improving the Code with respect to stormwater management, landscaping requirements and parking lots, and green building for publicly financed projects
- Review best practices for the preservation of historic buildings, adaptive reuse, and design consistency, and make recommendations to strengthen City Code, the role of CAUD, and downtown Binghamton
- Make recommendations on a sustainable development plan for economic stimulation in the City, including marketing and funding opportunities to incentivize investment and compliance

To fulfill its tasks, the Commission met on the second Wednesday of each month. Additional working meetings were held by subcommittees charged with the development of specific recommendations addressing four subject areas: Land Use, Stormwater Management,

Sustainable Buildings, and Sustainable Economic Development. This report is the culmination of nearly a year's worth of research and discussion. The Commission strongly urges the Mayor and City Council to implement the recommendations laid out in this report. It will, no doubt, take time and energy to carry out all of the recommendations. However, given the dire state of the environment and economy, sustainable change is vital to the long term health of our community.

Commission on Sustainable Development and Smart Growth Members:

- City Hall Staff: Merry Harris, Director of Economic Development; Tom Costello, 1st Deputy Commissioner of Public Works; Brenda Longstreet, Senior Engineer; Caroline Quidort, Senior Planner; Dave Chadwick, Director of Building, Code and Construction; Amelia LoDolce, Sustainable Development Planner
- City Council Members: Robert Weslar (Co-Chair), Lea Webb, Sean Massey
- Community Members: Bat-Ami Bar-On, Madeleine Cotts, Zack McKenna, Bob Pompei (Co-Chair)

## II. Vision of the Commission

The Commission on Sustainable Development and Smart Growth has developed the following definition for sustainable development and smart growth principles in order to have a common vision to guide the Commission's work. We have adopted the following definition and principles after much research and deliberation.

### Definition of Sustainable Development

There are over 100 definitions of sustainability and sustainable development, but the best known and most often used definition comes from the United Nations Brundtland Commission, formerly known as the World Commission on Environment and Development. In 1987, the Brundtland Commission stated that sustainable development is development that "meets the needs of the present without compromising the ability of future generations to meet their own need". Sustainability is further defined by governmental agencies, learning institutions,

nongovernmental organizations, and others in terms of the interconnectedness of environmental, economic and social systems. This is also referred to as the “triple bottom line of environmental health, economic prosperity, and social well being” (United Nations, 1992). It is also widely recognized that personal and collective actions affect the sustainability of local and global environmental, economic and social systems. Considering existing definitions, the Commission has developed and adopted the following definition for sustainable development:

*Development which meets the needs of the present at the same time as safeguarding and improving economic, social and environmental resources and the ability of future generations to meet their own needs.*

### **Smart Growth Principles**

#### **Origins of the Sustainable Development and Smart Growth Movement**

The 20th Century movement for sustainable development and Smart Growth policies owes much to the articulation of the Ahwahnee Principals for Resource-Efficient Communities which were developed by the Local Government Commission and a group of leaders active in expressing new notions of *land use planning* in 1991. The group met to agree upon what constitutes new planning ideas and create a set of community principals. Their work provided a blueprint for Smart Growth and set the path for the national movement embraced by communities across the country. Many members of the group were proponents of “New Urbanism”, a reaction to sprawl, traditional sub-urban style zoning, and sub-division practices. The charter of New Urbanism addresses a wide range of issues including open space, affordable housing and the design of neighborhoods. In that sense it is an important part of the land use policy tool box for Smart Growth.

In brief, the Ahwahnee Principles (See Appendix A) call for:

- Revitalizing existing parts of our communities through infill development
- Planning complete and integrated communities with a mix of uses:
  - Within walking distance of one another
  - With a diversity of housing types
  - With a center focus

## **Introduction to Smart Growth**

Smart Growth is sensible, planned efficient growth that generates economic development and job creation with community quality of life by preserving and enhancing the built and natural environments. Smart Growth encourages growth in developed areas with existing infrastructure to sustain it—particularly in municipal centers, downtowns, (“Main Streets”), urban cores, historic districts and older first-tier suburbs.

In its fullest form, Smart Growth represents the coordinated use of a variety of public policies that can affect growth – ranging from transportation investments to land-use regulation – in order to pursue a specific set of anti-sprawl policy goals, such as a less auto-oriented lifestyle in cities and towns and greater preservation of non-urban land, whether used for farmland, wildlife or recreation.

Smart Growth is an attempt to rearrange growth patterns so that new development can be accommodated in a different and presumably more manageable and sustainable way.

In brief, Smart Growth promotes:

- Smart business: creates community and quality of life, engines that have drive economic development in the innovation economy.
- Smart transportation: using wise, targeted transportation investments to create viable communities and reduce the amount of car ravel necessary by offering mobility choices such as walking, biking ad public transit.
- Smart environmental protection: helps reduce greenhouse gas emissions, and reverse global warming, in two important ways: by promoting “green” buildings and designing communities that reduce the amount of miles we drive.

As with the definition for sustainable development, the below principles were adopted by the Commission after reviewing smart growth principles espoused by numerous agencies and organizations, including the US Environmental Protection Agency, Smart Growth Vermont, the Boston Metropolitan Area Planning Council, and others. The Commission identified the following Smart Growth Principles as guidelines for planning and development of local policies:

**1. Mix land uses.**

New, clustered development works best if it includes a mix of stores, jobs and homes. Single-use districts make life less convenient and require more driving.

**2. Take advantage of compact building design.**

Smart growth provides a means for communities to incorporate more compact building design as an alternative to conventional, land consumptive development.

**3. Provide for housing that meets the needs of a diversity of social and income groups.**

Provide quality housing with efficient access to resources for people of all income levels.

**4. Create walkable neighborhoods.**

Walkable communities are desirable places to live, work, learn, worship and play, and therefore a key component of smart growth. A compact, walkable neighborhood contributes to people's sense of community because neighbors get to know each other, not just each other's cars.

**5. Foster distinctive, attractive communities with a strong sense of place.**

Smart growth encourages communities to craft a vision and set standards for development and construction which respond to community values of architectural beauty and distinctiveness, as well as expanded choices in housing and transportation.

**6. Protect and preserve environmental quality and important natural and historic features of the area, including natural areas, water resources, air quality, farmland, scenic resources, and historic sites and districts.**

Clean air and water, scenic resources and natural areas are essential to Binghamton's economic future as well as the health and well being of residents and visitors to the area.

**7. Provide the public with access to formal and informal open spaces, including parks, playgrounds, community gardens, spaces for urban agriculture, water bodies, forests and hills.**

Open space preservation supports smart growth goals by bolstering local economies, preserving critical environmental areas, improving our communities quality of life, and guiding new growth into existing communities.

**8. Strengthen and direct development to currently developed areas to take advantage of existing community assets.**

Smart growth directs development towards existing communities already served by infrastructure, seeking to utilize the resources that existing neighborhoods offer, reduce sprawl, and conserve open space and irreplaceable natural resources on the urban fringe. Infill and re-development should be maximized on brownfield and greyfield sites.

**9. Enable choice in the mode of transportation available and insure that transportation options are integrated and consistent with land use objectives.**

Providing people with efficient and alternative transportation choices provides people with another way to get where they're going without private automobiles. It fosters greater community opportunities for housing, shopping, and jobs compliant with Smart Growth principles.

**10. Make development decisions predictable, transparent, fair, and cost effective.**

Builders wishing to implement smart growth should face no more obstacles than those contributing to sprawl. In fact, incentives might be provided for smarter development.

**11. Accomplish goals and strategies for smart growth through coalitions with stakeholders and the public to ensure accountability.**

Collaborative efforts can lead to creative resolutions of development issues and greater community understanding of the importance of good planning and investment which results in great places to live, work, shop and play.

**12. Promote equity amongst all people and support ethnic and cultural diversity.**

All people should share fairly in the benefits of development and none should bear an unfair burden of the social costs associated with planning decisions.

**13. Support a diversity of viable business enterprises in downtowns, other neighborhood business districts, and the region, while promoting locally-owned businesses and disadvantaged business enterprises.**

Fostering business growth and development in downtown and business districts reinforces those areas as a center of community life and contributes to social integration of all community members. It is also an effective use of existing infrastructure and a way to maximize past public investment in established centers.

**14. Encourage and strengthen regional cooperation.**

Most community assets and problems do not recognize municipal boundaries. Regional cooperation is needed to address common concerns, such as traffic, and to protect

common resources, such as watersheds. Regional solutions can also encourage the efficient use of funds.

**15. Promote economic development in ways that produce livable jobs, strengthen low and moderate-income communities, and protect the natural environment.**

Economic development is a critical objective for Binghamton's future. Economic development should not compromise the wellbeing of individuals or families, the natural environment, or the ability of the area to thrive in the future. Good planning practice encourages economic development in ways that minimize disruption of the natural environment. Sustainable economic development can be fostered through "green collar" job training programs.

## Resources

- Boston Metropolitan Area Planning Council. Smart Growth Principles. Retrieved on June 11, 2008: [http://www.mapc.org/regional\\_planning/MAPC\\_Smart\\_Growth.html](http://www.mapc.org/regional_planning/MAPC_Smart_Growth.html)
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- United Nations World Commission on Environment and Development (1987). *Our Common Future: Report of the World Commission on Environment and Development*. Retrieved on January 26, 2009: <http://worldinbalance.net/agreements/1987-brundtland.php>
- United States Environmental Protection Agency. *US EPA Smart Growth Website*. Retrieved on June 11, 2008: <http://www.epa.gov/dced/>

## II. Report and Recommendations

Once a working definition of sustainable development and smart growth principles were agreed upon, the Commission moved forward to research best practices and recommend actions the City should take to become more sustainable and to pursue Smart Growth. Our goal was to make the recommendations truly action steps—as specific and immediate as possible. However, making broad changes in the way development traditionally occurs requires care, understanding of the

manifold consequences, and a consensus process rather than unilateral change in municipal rules. Many groups need to participate: private developers and landowners, planning groups, regional government and civic organizations, the design community, environmental groups, review boards and elected officials are some of the key players that should be involved. For that reason, some of the Commission's recommendations are for the formation of additional working groups to take on larger tasks such as the possible adoption of SmartCode.

**a. Climate Protection & A Sustainable Future: Local Implementation of the U.S. Conference of Mayors Climate Protection Agreement**

If we are to be sustainable, we must look at the global picture in framing our local actions. Climate Change is one of the greatest environmental challenges for humankind. Although it is of global significance, virtually all human activities contribute to climate change when they consume fuel or energy. This means that all organizations should have a strategy for reducing their climactic impact. Mayor Ryan signed on to the Mayors Climate Protection Agreement in 2007, and the City's next step is to join the organized movement to address climate change issues in a systematic manner.

**Recommendations**

The City of Binghamton should join the ICLEI – Local Governments for Sustainability's Cities for Climate Protection (CCP) campaign. There are numerous organizations and software programs available to support implementation of the agreement. The most widely used and tested is the Cities for Climate Protection (CCP), developed by the International Council on Local Environmental Initiatives (ICLEI) - Local Governments for Sustainability. Fifteen other upstate NY communities, including Buffalo, Syracuse, Ithaca and Tompkins County, are participants facilitating the link to a regional movement that works together to implement the STAR Community Index by 2010 (see resources below).

CCP assists cities with adopting policies and implementing quantifiable measures to reduce local greenhouse gas emissions, improve air quality, and enhance urban livability

and sustainability. More than 800 local governments participate in the CCP integrating climate change mitigation into their decision making processes. Communities that participate in the CCP benefit from the actions that they take to reduce greenhouse gas emissions through:

- Financial savings in reduced utility and fuel costs to the local government, households, and businesses.
- Improved local air quality, contributing to the general health and well being of the community.
- Economic development and new local jobs as investments in locally produced energy products and services keep money circulating in the local economy.
- Participation in ICLEI development of a sustainability index, to be completed by 2010, that will gauge the communities, similar in function to LEED – but for local governments to certify their sustainable achievements. ICLEI plans the index to act like LEED but for communities instead of individual buildings.

City employees and advisory board members should use the membership to access sustainability and climate protection programs in other municipalities, form partnerships and participate actively in the development and implementation of their index.

**Action Steps:**

- i.** Complete the application process for ICLEI – Local Governments for Sustainability’s CCP.
- ii.** City employees and advisory board members should use the membership to access sustainability and climate protection programs in other municipalities, form partnerships and participate actively in the development and implementation of their index.
- iii.** Implement the five milestones of the CCP using the ICLEI software to provide a simple, standardized means of calculating greenhouse gas emissions, of

establishing targets to lower emissions, of reducing greenhouse gas emissions and of monitoring, measuring and reporting performance. The five milestones are:

**Milestone 1. *Conduct a baseline emissions inventory and forecast.*** Based on energy consumption and waste generation, the City calculates greenhouse gas emissions for a base year (e.g. 2000) and for a forecast year (e.g. 2015). The inventory and forecast provide a benchmark against which the City can measure progress.

**Milestone 2. *Adopt an emissions reduction target for the forecast year.*** The City establishes an emission reduction target for the City. The target both fosters political will and creates a framework to guide the planning and implementation of measures.

**Milestone 3. *Develop a Local Action Plan.*** Through a multi-stakeholder process, the City develops a Local Action Plan that describes the policies and measures that the local government will take to reduce greenhouse gas emissions and achieve its emissions reduction target. Most plans include a timeline, a description of financing mechanisms, and an assignment of responsibility to departments and staff. In addition to direct greenhouse gas reduction measures, most plans also incorporate public awareness and education efforts.

**Milestone 4. *Implement policies and measures.*** The City implements the policies and measures contained in their Local Action Plan. Typical policies and measures implemented by CCP participants include energy efficiency improvements to municipal buildings and water treatment facilities, streetlight retrofits, public transit improvements, installation of renewable power applications, and methane recovery from waste management.

**Milestone 5. *Monitor and verify results.*** Monitoring and verifying progress on the implementation of measures to reduce or avoid greenhouse gas emissions is

an ongoing process. Monitoring begins once measures are implemented and continues for the life of the measures, providing important feedback that can be use to improve the measures over time.

### Resources

- The United States Conference of Mayors (2005). *U.S. Mayors Climate Protection Agreement*. Retrieved January 22, 2009 at: <http://usmayors.org/climateprotection/documents/mcpAgreement.pdf>
- ICLEI Local Governments for Sustainability. *Website*. Available at: <http://www.iclei.org>
- ICLEI Local Governments for Sustainability (November 28, 2007). *New U.S. Star Community Index to Help Local Governments Measure, Declare "Green" Status, Protection*. ICLEI e-News, Issue 10, October - November 2007, Program News Section. Retrieved October 2008 at: <http://www.iclei.org/index.php?id=7495>

## 2. Land Use

The way the city plans for and governs the use of its land defines the character and quality of its community life. Progressive leadership embraces policies that empower citizens to envision and design their built environment and retain the ability to preserve their natural environment. In recent years progressive communities have recognized that a return to compact, walkable communities with a variety of housing types and access to open space is desirable over reliance on individual vehicles to travel to sprawling development . The way we plan and build our community has an effect on global warming. Buildings account for 40% of greenhouse gasses in the USA<sup>1</sup>. Another third comes from automobile travel which increases with sprawling, vehicle-dominated patterns. According to a report published by the Urban Land Institute, smart growth land use planning “could, by itself, reduce total transportation-related CO<sub>2</sub> emissions from current trends by 7 to 10 percent as of 2050”. However, if sprawl is not addressed, the increase

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<sup>1</sup> United States Green Building Council. (2008, November). *Green Building Facts*. Retrieved November 10, 2008 from website: <http://www.usgbc.org/ShowFile.aspx?DocumentID=3340>

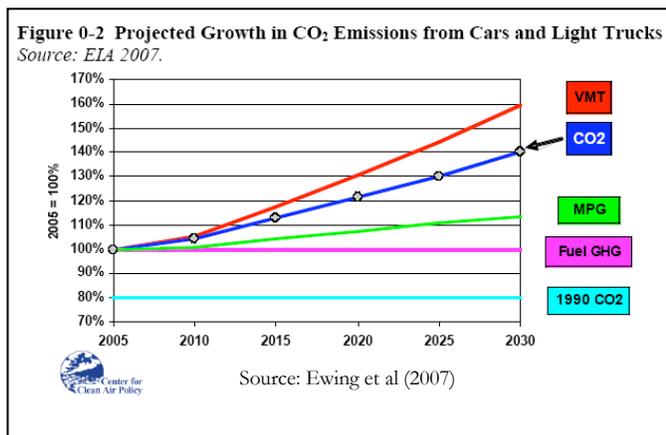
in vehicle miles traveled (VMT) will more than cancel out emission reductions achieved by vehicle fuel economy improvements (Ewing et al, 2007).

The City of Binghamton faces the challenges of many northeastern municipalities as it determines how to incorporate opportunities for “new”

economic growth into its existing environment. Brownfields and greyfields must be seen as potential assets instead of liabilities. Preservation of neighborhood character must be balanced with the integration of desirable new construction. Our distinct and beautiful natural environment—rivers, forested hillsides, public greenspaces—must be protected and amplified.

Our commitment to sustainable development provides a framework for guiding the use of physical and fiscal resources. It calls first for active civic engagement in setting the vision for the future. Land use options include selective infill, adaptive reuse of historic properties, creative redevelopment of dormant sites for mixed use (commercial, retail, residential, green industry), attention to environmental impacts, incorporation of environmentally sensitive methods, and use of overlay districts to protect natural areas.

Review and revision of the City’s existing building code and zoning ordinances will be referred to in numerous sections of this report. One opportunity for more immediate action to facilitate the changes we are seeking is the use of “overlay districts.” Overlay zoning facilitates an array of development options and goals, including cluster developments, Traditional Neighborhood Development, Transit-Oriented Development, watershed protection and historic preservation, to name just a few. Overlay zoning creates a second, mapped zone superimposed over existing, conventional zoning districts. As such, overlay zoning may permit special regulations to exist within parts or all of a zoning district. Conversely, regulations may also be less restrictive, such as allowing for fewer parking spaces in a downtown transit station area.



### a) Planned Development: Smart Growth

Post war development has lead to urban sprawl and segmented communities dependent on automobiles and highways for existence. Planning has become secondary to isolated large-scale developer-proposed new construction. Citizens have lost the sense of empowerment in envisioning and designing their built environment and the ability to preserve their natural environment.

#### Recommendations

1. The City of Binghamton should embrace Smart Growth principles that encourage public and stakeholder collaboration to create a plan for a livable city consistent with community values.

Smart Growth returns to development that is human scale and compact; that provides open, communal space and walkability or economically viable public transit. It addresses the human need for neighborhoods and connection and for participation in the process by which their community develops. The City of Binghamton has taken significant steps toward transparency in local government decision-making, in particular through the support of Neighborhood Assemblies. By extension, public participation in the planning process that sets standards, rather than reacting to individual proposals, can ensure that core values guide development.

#### **Action Steps:**

- i. Utilize the resources available at Smart Growth America and/or engage consultants well versed in Smart Growth to analyze and update the City's existing Comprehensive Plan, Local Waterfront Revitalization Plan, and Place Making for Prosperity in accordance with Smart Growth Principles and SmartCode using a strong community engagement process.
- ii. Educate City Planning and Zoning Board, Council members and related staff, in the Principles of Smart Growth, using resources available from Smart Growth

America so that they can begin to evaluate proposed new development by Smart Growth principles.

- iii. Working through the Binghamton Economic Development Office and Binghamton Local Development Corporation and the Building and Code Department, encourage and incentivize development that supports Smart Growth.
  - iv. Initiate and encourage discussion at a regional level on adoption of Smart growth and Sustainable Development principles. This can occur through the Southern Tier East Regional Planning & Development Board (STERPDB).
2. Use Brownfield and Greyfield redevelopment as a primary resource for infill and economic development consistent with community developed vision and goals.

**Action steps:**

- i. Incorporate Brownfield/ Greyfield redevelopment into community based planning discussions.
- ii. Use NYS Brownfield programs and resources effectively to plan for proposed redevelopment in the First Ward, Brandywine corridor and North Chenango corridor.
- iii. Consider how financial incentives can be used to leverage desirable redevelopment (Note: the Binghamton Local Development Corporation (BLDC) has been working on this).

***Examples of short term actions that support Smart Growth:***

*Develop a localized PowerPoint presentation on Smart Growth from one of the templates available from Smart Growth America to be used to educate and raise awareness about Smart Growth Principles and how they related to local development.*

*Develop a steep slope overlay district that puts development restrictions on those areas to prevent erosion, excessive runoff, and landslides.*

### Resources

- Smart Growth America (2008). *Choosing Our Community's Future: A Guide to Getting the Most out of New Development*. Available at: <http://www.smartgrowthamerica.org/guidebook.html>
- Smart Growth America (2002). *Introduction to Smart Growth: More Choices for Our Families*. Retrieved October 2009 at: <http://www.smartgrowth.org/library/articles.asp?art=357&res=1024>
- Northeast Midwest Institute (2008). *Revitalizing Older Cities & Sustainable Development*. Available at: <http://www.nemw.org/smartgrowth.htm>
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- University of Louisville, School of Public Policy & Planning (2006). *Connecting Smart Growth and Brownfield Redevelopment 2006*. Retrieved October 2008 at: [http://cepm.louisville.edu/publications/PDF\\_docs/smart%20growth%20and%20brownfields%20for%20website.pdf](http://cepm.louisville.edu/publications/PDF_docs/smart%20growth%20and%20brownfields%20for%20website.pdf)

### **b) Smart Growth needs a Smart Code**

We cannot expect to nurture development in accordance with Smart Growth Principles without the statutory structure to support that. SmartCode is a unified land development ordinance for planning and urban design. It folds zoning, subdivision regulations, urban design, and optional architectural standards into one complete document. Our conventional code is based primarily on use and density. This has led to systemic problems by separating

uses, making mixed use and walkable neighborhoods essentially illegal. The emphasis on “use” controls some aspects of development to the detriment of the overall impact such as accessibility, mobility, aesthetic compatibility, and physical form. To be consistent with the principles of Smart Growth the code needs to offer a more adaptable, integrated, less prescriptive approach to land use and development in the city – a more organic system based on the natural terrain and character of a city.

### Understanding SmartCode

SmartCode provides the framework needed to achieve Smart Growth. The SmartCode is model land use development code the provisions and metrics of which are geared to shape good urban design in a generic medium-sized American city. It is a form-based code that describes the kind of neighborhood or district that is intended. District types may be anything from a tree-lined Main Street to a houses-only hamlet to a dense office district. The goal is to have each new development contribute to the overall character of a place, as opposed to conventional code that merely carves the land into isolated uses with little or no attention to how the pieces should relate to each other.

SmartCode achieves the sustainable outcomes outlined above including: community vision, local character, conservation of open lands, infill, transit options, and walkable mixed use neighborhoods. It prevents these outcomes: wasteful sprawl development, automobile-dominated streets, empty downtowns, and a hostile public realm. It allows different areas within the community, unlike a one-size fits all conventional code. This gives the SmartCode unusual political power because it permits buy-in from all stakeholders.

Because the SmartCode enables community vision by coding specific outcomes that are desired in particular places, it is meant to be locally customized (also known as “calibrated”)

#### SmartCode Communities\*

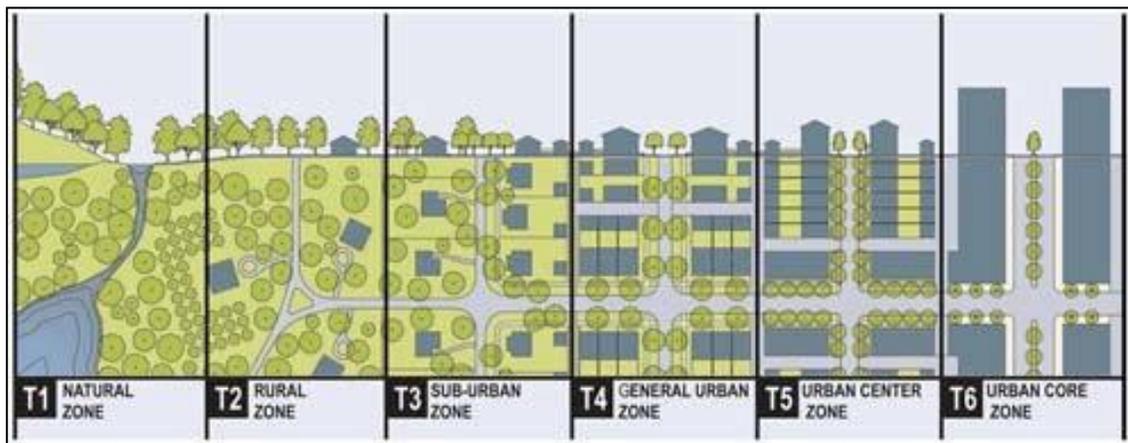
- Saratoga Springs, NY
- Onondaga County, NY
- Miami, FL
- Fort Myers, FL
- Montgomery, AL
- San Antonio, TX
- Grand Rapids, MI
- Iowa City, IA
- Montpelier, VT

*\*This is just a partial list. The full list is available at: <http://www.smartcodecomplete.com/learn/links.html#studies>*

by professional planners, architects, urban designers, engineers and attorneys, ideally with the participation of local citizens. SmartCode is a “form-based code” because it strongly addresses the physical form of building and development. It is important to note that SmartCode is *not a building code*. Building codes address life/safety issues such as fire and storm protection. Examples of building codes include the International Building Code (IBC), the International Residential Code (IRC), and the International Code Council (ICC) documents. Binghamton falls under the New York State Uniform Fire Prevention and Building Code, which was based on these with enhancements by NYS.

The SmartCode is also a transect-based code. A “transect” is usually seen as a continuous cross-section of natural habitats for plants and animals ranging from shorelines to wetlands to uplands. The specific transect that the SmartCode uses is based on the human habitat, ranging from the most rural environments to the most urban environments. This transect is divided into a range of “Transect Zones,” each with its own complex character. It ensures that a community offers a full diversity of building types, thoroughfare types and civic space types, and each has appropriate characteristics for its location. The six T-Zones are: T-1 Natural, T-2 Rural, T-3 Sub-Urban, T-4 General Urban T-5 Urban Center and T-6 Urban-Core (see diagram on next page).

The transect is a powerful tool because its standards can be coordinated across many other



SmartCode Transects (Source Duany Plater-Zyberk & Co, 2008)

disciplines and documents, including Institute for Transportation Engineers (ITE) and Leadership in Energy and Environmental Design (LEED). Thus the SmartCode integrates the design protocols of a variety of specialties, including traffic engineering, public works, town planning, architecture, landscape architecture and ecology.

The SmartCode addresses development patterns at three scales of planning (thus it may replace a number of other documents):

- The Sector (Regional) Scale
- The Community Scale
- The Block and Building

If stronger architectural guidelines are desired, a community may further adopt supplemental regulations or a pattern book.

### **Recommendations**

Integrate SmartCode into City planning and policy, starting with incremental changes such as the implementation of overlay districts. Start with a planned process of public education, priority setting and calibration for local character and metrics.

*Note: This process supports the recommendations in the more detailed section on storm water management that follows. The action items should be implemented in conjunction with outreach and education on Smart Growth.*

### **Action Steps:**

- i.** Convene a “SmartCode Onsite” educational workshop presented by known leaders in the field to create a consensus on the value and applicability of SmartCode in the City of Binghamton. Invite a broad base of stakeholders.
- ii.** Conduct public charrettes working with participants from the workshop, municipal officials who have enacted SmartCode and leading experts in the field, to identify opportunities and mechanisms for SmartCode implementation.

- iii. Establish responsibility, an implementation plan, benchmarks, and evaluation metrics.
- iv. Follow through on implementation and evaluation. Continue public education using the example districts. Expand as indicated.

***Examples of short term actions that support SmartCode:***

*Expand the boundaries of the “core city” so that redevelopment, including new construction, takes advantage of existing/public parking rather than requiring significant new parking.*

*Evaluate and calibrate maximum setback requirements for development in commercial districts to ensure ease of access and aesthetic quality.*

*Institute a special use permit and review for developments of 70,000 square feet or more.*

**Resources**

- Emerson, Chad (2007). The SmartCode Solution to Urban Sprawl. Environmental Law Institute, Washington D.C.
- SmartCode Central. *About the Code and Why We Do This*. Retrieved November 2008 at: <http://www.smartcodecentral.org>
- Placemakers. *SmartCode on Site*. Retrieved November 2008 at: <http://www.placemakers.com>
- Duany Plater-Zyberk & Company (2008). *SmartCode Version 9.0*. Retrieved January 2009 at: [http://www.smartcodecentral.com/docs/3000\\_CleanCodev9.pdf](http://www.smartcodecentral.com/docs/3000_CleanCodev9.pdf)

**3. Stormwater Management**

Binghamton is a city in a valley at the confluence of two rivers. Runoff from rain falling on the hillsides within the city, the hills surrounding the city, and lands which drain into the Chenango and Susquehanna Rivers upstream of the city, flow into Binghamton. All this water and additional runoff from Binghamton flows into the Susquehanna River, through many downstream communities, and eventually into Chesapeake Bay. Increases in impervious surfaces such as roofs and pavement that come with new development reduce the

amount of rainfall that soaks into the ground where it falls and increases the volume of runoff draining into our storm system, streams and rivers. This increased volume of stormwater runoff affects the City in a number of ways which must be dealt with to protect our water supply, our food supply, our property, and our quality of life:

- More frequent floods
- Higher flood levels
- Higher velocity in streams
- Existing storm sewer systems designed for the lower flows of the past are overwhelmed and back up, flooding streets
- Increased soil erosion
- More pollutants carried into streams
- Diminished recharge of ground water and wells
- Lower stream flows during dry weather
- Degradation of stream and wetland habitats
- Channel modification and/or relocation



Stormwater runoff overview

The runoff picks up and brings with it the dust, soil and chemicals that it encounters along the way, resulting in reduced water quality. All of these consequences of increased impervious cover cost money to address. The City of Binghamton can minimize these costs through instituting better municipal housekeeping strategies, detecting and eliminating illegal discharges to its stormwater system, and rethinking its development rules to require better site design practices in property development and redevelopment that reduce stormwater runoff rather than increasing it.

Reducing the volume of stormwater runoff and pollutants reduces infrastructure costs, flood prevention costs, emergency management costs, water treatment costs, and healthcare costs. The use of better site design principles often results in significant cost savings to private developers also (see “The Economic Benefits of Better Site Design in Virginia and the Economic Benefits of Protecting Virginia’s Streams, Lakes and Wetlands”, 2001, State of Virginia Department of Conservation and Recreation at: [http://www.dcr.virginia.gov/soil\\_&\\_water/documents/swmecon.pdf](http://www.dcr.virginia.gov/soil_&_water/documents/swmecon.pdf)).

Rainfall, runoff, and water-related effects do not respect municipal boundaries. Flooding, runoff and water quality in the City of Binghamton is affected by actions and practices taking place outside its jurisdiction. However, the City of Binghamton can do much to reduce its own contribution to the problem, and also serve as a leader and a good example to other communities in the region. This Commission hopes to assist the City in finding ways to do that.

### a) Improving Municipal Code

The Mayor’s Commission on Sustainable Development and Smart Growth recommends the City undertake a review and reform of the City’s municipal code for better stormwater management. We can reduce runoff and flooding, improve water quality, recharge local aquifers, and reduce infrastructure costs through changes to land use regulations that would allow and encourage better site design.

What is “better site design”? From the New York State Department of Environmental Conservation (NYSDEC) Division of Water’s 2008 handbook “Better Site Design”: “The

#### Stormwater Management

##### Site Design Solutions\*

- Rainwater Harvesting (Cisterns, Rain Barrels, etc.)
- Permeable Pavement
- Green Roofs
- Bioretention Cells
- Vegetated Swales
- Disconnection of Impervious Areas
- Natural Resource Preservation and Xeriscaping
- Urban Forestry
- Downspout Disconnection

*\*see glossary for term definitions*

aim of better site design is to reduce the environmental-impact ‘footprint’ of the site while retaining and enhancing the owner/developer’s purpose and vision for the site. Many of the better site-design concepts employ non-structural on-site treatment that can reduce the cost of infrastructure while maintaining or even increasing the value of the property relative to conventional designed developments.”

As is true for many municipalities, some of Binghamton’s existing regulations may actually contribute to stormwater management problems, increasing runoff by requiring more impervious area (for example, more parking spaces or wider drives) than is actually necessary. Existing codes generally have a bias toward the traditional “capture it and send it off site” approach to stormwater management, and may not even permit the use of updated best practices promoted by the NYSDEC. Fortunately, many resources are available to assist in the review and reform process, and a number of municipalities in New York State and beyond have undertaken it before us.

### **Recommendations**

- 1. We recommend the City of Binghamton undertake the process laid out in detail in the handbook created by the non-profit Center for Watershed Protection: BETTER SITE DESIGN: A Handbook for Changing the Development Rules in Your Community.** The Center for Watershed Protection is a well-known leader in research and education on better stormwater management, and helped produce the NYSDEC handbook “Better Site Design”. They provide a detailed process, extensive supporting material, and scientific references to assist communities undertaking such reforms.

#### **Action Steps:**

The Center for Watershed Protection sets out a four-step process:

- i. Find Out What the Development Rules are in Your Community.** The first step would be to assemble all the regulations that shape and affect

land use in the City. The City of Binghamton’s land use code is made up of multiple elements: subdivision code, zoning regulations, development standards such as those for street width and parking requirements, building code, floodplain regulations, fire code, and other ordinances that collectively shape property development and redevelopment in the City of Binghamton. As a part of this process, the Commission suggests the City consider creating a comprehensive land use code that includes all regulations applying to land development. This would be attractive to prospective developers, and of benefit to review boards, and interested citizens.

- ii. See How Your Rules Stack Up to Model Development Principles.** The handbook provides model development principles and “site planning benchmarks” for comparison with the municipalities existing regulations. These principles are in agreement with those described in the NYSDEC handbook “Better Site Design”, which was written with the assistance of the Center for Watershed Protection. These principles address the elements that affect runoff quantity and quality and therefore affect stormwater management:
- a.** Parking requirements and parking lot design, including special considerations for downtown areas with higher public transit use, such as residential permits for overnight parking at meters in mixed-use districts and greater distances permitted between parking areas and residences
  - b.** Street design, including width, length, right of way, parkway strip, sidewalk and cul-de-sacs
  - c.** Setbacks and frontage requirements
  - d.** Sidewalk design

- e. Driveway design requirements
- f. Drainage practices
- g. Clearing and grading practices
- h. Open space and planted buffer incentives
- i. Tree conservation

**iii. Consider Which Development Rules Might Be Changed.** Worksheets and a process are provided for evaluating the costs and benefits of changing a particular development rule in the context of your particular community.

**iv. Start A Local Roundtable Process.** It is recommended that the actual drafting of the new language is done by a roundtable group made up of representatives from many interested groups: representatives from all development review boards, land use lawyers, developers, planners, design professionals, realtors, elected officials, fire officials, public works officials, lenders, watershed advocates, insurers, and others. An outside facilitator might be useful as well. A CD with information to guide workshops, handouts, slideshows, agendas, invitation letters, and other support is available for \$25 from the Center for Watershed Protection.

**2. Some more immediate action steps the City can take toward better stormwater management in the meantime:**

- i. Improve municipal oversight of compliance with the State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities, which requires that erosion and sediment control practices be in place on construction sites over one acre in size before ground is broken, and be maintained throughout construction until sitework is complete.

Permit holders are required to employ qualified inspectors to perform weekly inspections, but these inspectors have little power to enforce contractor compliance. There is a strong disincentive to report violations to NYSDEC as the inspector is employed by the owner, who would be responsible for payment of any fines. The City might train code enforcement and public works personnel to recognize possible violations on construction sites and report them to the Engineering Department for further investigation, and a referral to NYSDEC, if warranted.

- ii. The Planning Commission can encourage preservation of areas of existing vegetation on development sites when reviewing site plans for approval, especially near streams and on steep slopes.
- iii. The Planning Commission can require a limit of disturbance to be shown on all development plans. Encourage developers to restrict clearing and land disturbance to the minimum area required for construction and construction access.
- iv. Create a Public Transportation Overlay District with reduced off-street parking requirements in areas with good public transportation available.
- v. Use porous pavement or permeable pavers to pave a municipal site as a demonstration project.
- vi. Provide incentives to private developers for the use of permeable pavements.
- vii. Create a brochure for developers explaining the nature and benefits of the newer best practices for stormwater management such as permeable pavements, filter strips, rain gardens, bioretention, and open vegetated channels as alternatives to the traditional catch basin and pipe

arrangements, and letting them know that the City looks favorably upon their use.

viii. Encourage the construction of green roofs.

### Resources

- Center for Watershed Protection (1999). *Approaches to Better Site Design*. CD, available at <http://www.cwp.org>. (\$25)
- Center for Watershed Protection (1998). *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Retrieved October 2008 at: <http://www.cwp.org>
- Center for Watershed Protection (2004). *The Do-It-Yourself Local Site Planning Roundtable*. CD, available at <http://www.cwp.org>. (\$25)
- New York State Department of Environmental Conservation (April 2008). *Better Site Design*. Retrieved October 2008 at: <http://www.dec.ny.gov/chemical/43321.html>

## **b) Detection and Elimination of Illicit Discharges into the City's Stormwater Systems**

The City of Binghamton, in accordance with Section 402 of the Clean Water Act, has obtained permit coverage in accordance with Part II of the State Pollutant Discharge Elimination System (SPDES) and has been designated as a Municipal Separate Storm Sewer System (MS4). Discharges from MS4s often include wastes and wastewater from non-stormwater sources. A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff (EPA, 2005). A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4.

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or

paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving water bodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade downstream water quality and threaten aquatic, wildlife, and human health.

### **Recommendations**

The City of Binghamton has to begin to put into place an illicit discharge detection and elimination program. In 2007 a local law was passed which prohibits non-stormwater discharges into the MS4. The City has also created a storm sewer map which shows the location of all outfall locations and the waters to which they discharge. However, more steps need to be taken in order to completely implement this program and should include the following items:

- 1) A plan to detect and address non-stormwater discharges, including illegal dumping, into the MS4. The plan could include the following:
  - Locating problem areas
  - Finding the source
  - Remove/correct illicit connections (this would include separating current combined systems)
  - Documenting actions taken
- 2) The education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste using the following methods:
  - Developing guiding documents including an informational website
  - Designing a program to facilitate public reporting
  - Coordinating volunteers to locate and visually inspect (the City currently has volunteers labeling storm drains)

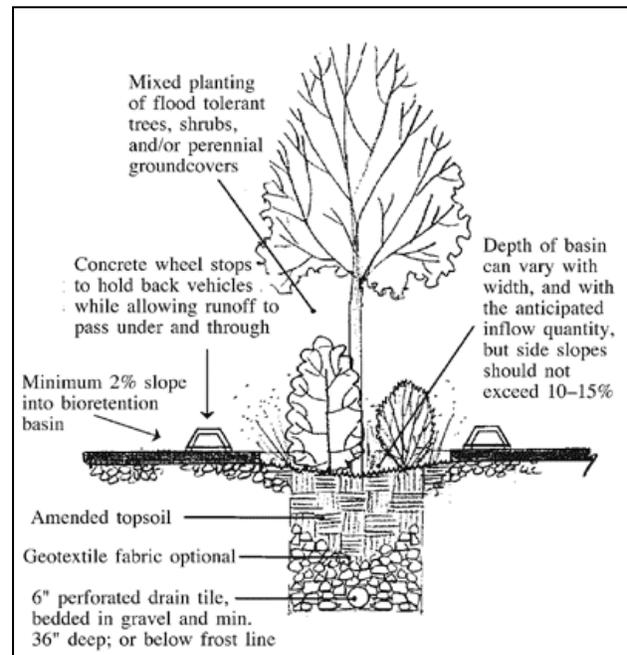
- Initiating recycling programs for commonly dumped wastes (including prescription and over-the-counter drugs)
- 3) The determination of appropriate best management practices (BMPs) and measurable goals.
  - 4) We recommend the City of Binghamton use “The Galveston County Health District Pollution Control Division’s Guidance Manual for Identifying and Eliminating Illicit Connections to Municipal Separate Storm Sewer Systems (MS4s)” located at <http://www.gchd.org/pollution/GuideManual.pdf> or a similar resource to aid in establishing a plan.

### Resources

- United States Environmental Protection Agency (EPA) (Revised December 2005). “Stormwater Phase II Final Rule” Fact Sheet 2.5. Available at: <http://www.epa.gov/npdes/pubs/fact2-5.pdf>



Photo (above) of a real-life implementation of the bioretention idea explained in the section drawing (right). This practice reduces stormwater runoff in a parking lot.



### c) Emerging Contaminants

While not technically considered an “Illicit Discharge”, the Commission had some concerns about a water quality issue due to the improper disposal of household prescriptions and over-the-counter drugs. Medications may enter our streams and rivers when they are flushed or dumped down the drain. In addition to polluting our drinking water, fish and other aquatic wildlife are being adversely affected and drug resistant bacteria may develop from overexposure to antibiotics.

The New York State Department of Environmental Conservation states that “Reducing the amounts of drugs that make their way to New York’s surface waters is a complicated task that requires collaboration among state and federal agencies, institutions, drug manufacturers, pharmacies and individuals” (NYS DEC, 2009).

#### Recommendations

While there are no clear solutions regarding removal of emergent contaminants from already polluted waterways, we recommend the City encourage proper disposal of prescription and over-the-counter drugs to prevent further contamination. More information can be found at <http://www.dontflushyourdrugs.net/>.

### d) Good Housekeeping for Municipal Operations

Good Housekeeping for municipal operations is a key element of the small MS4 stormwater management program. It requires the small MS4 operator to examine and subsequently alter its own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems.

While this action is meant primarily to improve or protect receiving water quality by altering municipal or facility operations, it also can result in a cost savings for the small MS4

operator, since proper and timely maintenance of storm sewer systems can help avoid repair costs from damage caused by age and neglect.

### Recommendations

The City of Binghamton, as per requirements of the Clean Water Act, has begun to create a Good Housekeeping program; however there is much more work to be done.

Components to consider consist of the following:

- 1) Develop maintenance activities, maintenance schedules and long-term inspection procedures for structural and non-structural controls to reduce floatables and other pollutants discharged from the separate storm sewers.
- 2) Implement controls for reducing or eliminating the discharge of pollutants from areas such as roads and parking lots, maintenance and storage yards including salt/sand storage and snow disposal areas, and waste transfer stations. These controls could include programs that promote recycling (to reduce litter) minimize pesticide use and ensure the proper disposal of animal waste.
- 3) Develop procedures for the proper disposal of waste removed from separate storm sewer systems and areas listed in the bullet above, including dredge spoil, accumulated sediments, floatables, and other debris.
- 4) Explore ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporation of additional water quality protection devices or practices.
- 5) Establish measurable goals to gauge the effectiveness of the program. The goals should consider the needs and characteristics of the City and the area served. We recommend that the City use the National Menu of Stormwater Best Management Practices (see resources).

### Resources

- United States Environmental Protection Agency (2005). *Stormwater Phase II Final Rule: Pollution Prevention/Good Housekeeping Minimum Control Measure (Fact Sheet 2.8)*. Retrieved October 2008 at: <http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm>
- United States Environmental Protection Agency (2008). *National Menu of Stormwater Best Management Practices*. Available at: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/>
- New York State Department of Environmental Conservation (NYS DEC) (2009). *What DEC and Others are Doing to Reduce Drugs in Surface Waters*. Retrieved February 15, 2009 at: <http://www.dec.ny.gov/chemical/45118.html>

### **e) Stormwater Policy and Procedure Workgroup**

Since becoming designated as a MS4, the City has made much headway in establishing local laws for ensuring compliance. Unfortunately, due to restrictions on personnel, turnover, and a general lack of understanding, much of these implementations are underused.

### Recommendations

We recommend establishing a Stormwater Policy and Procedure Committee comprised of City Hall employees from Engineering, Planning, Building and Construction and Public Works. Some areas of attention should be the following:

- i.** Assign a Stormwater Officer and delegate responsibilities for database maintenance, program implementation, plan review and inspections.
- ii.** Implement a program to identify and rectify illicit discharge hotspots.
- iii.** Review existing Stormwater laws, policies and procedures to identify areas of need.
- iv.** Identify sources of funding for combined system separation.

#### 4. Sustainable Building

The significance of buildings cannot be expressed in a simple statement, considering how profoundly they impact human existence. Building architecture creates the face of a community, and the history of buildings tells the history of a community. As discussed in depth in the sections below, buildings have a tremendous impact on the environment and on human health. For example, buildings account for 40% of raw materials consumed globally<sup>2</sup>, and construction and demolition material (including reusable, architecturally significant building materials) accounts for 25% to 45% the waste that goes to our national landfills annually<sup>3</sup>. Moreover, chemical components of building materials, such as formaldehyde, can cause asthma and other respiratory ailments as a result of reduced indoor air quality. By looking at buildings through the lens of sustainability, we can make policy decisions that will better support the economic, environmental and social well-being of our communities.

In this section, the Commission will make recommendations on how the City of Binghamton can promote and develop sustainable building practices. Though initially tasked with addressing green building and historic preservation as separate topics, the Commission chose to combine these topics as two parts of a larger issue: Sustainable Building. Though older buildings have not been traditionally seen as ‘green’ due to their tendency to be less energy efficient than modern buildings, it is increasingly understood that building preservation is an important component of sustainable, ‘green’ development. To begin with, preserving existing buildings reduces the need to extract additional resources for new building materials, which reduces energy consumption, resource extraction, and green house gas emissions. Furthermore, historic buildings give communities their distinctive look and feel, which is an important element of smart growth. Sustainable building initiatives should include preserving and renovating existing buildings along with the promotion of new green construction. In addition to the Green Building

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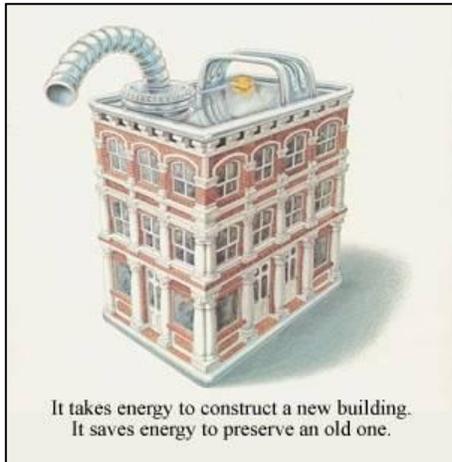
<sup>2</sup> US Green Building Council (2008, November). *Green Building Facts*. Retrieved on November 10, 2008 from website: <http://www.usgbc.org/ShowFile.aspx?DocumentID=3340>

<sup>3</sup> Southeast Environmental Financial Center (2004). *Construction & Demolition Debris Recycling for Environmental Protection and Economic Development*. Retrieved October 12, 2008 from website: [http://cepm.louisville.edu/Pubs\\_WPapers/practiceguides/PG7.pdf](http://cepm.louisville.edu/Pubs_WPapers/practiceguides/PG7.pdf)

and Historic Preservation pieces, the Commission included recommendations on Construction and Demolition Material Reuse and Recycling to address the impacts of buildings when they are taken down. Thus, the recommendations in this section address buildings as they relate to sustainability from the beginning of their life to the end.

**a) Historic Preservation and Sustainability**

Sustainability begins with preservation. No matter how green or cutting edge, new construction uses new resources, uses energy, and creates waste. Historic buildings were traditionally designed with many sustainable features and were constructed *before* the



introduction of climate-control and lighting systems powered with fossil fuels. Reusing an existing building is a sustainable practice in that the energy embedded in an existing building can be 30% of the embedded energy of maintenance and operations for the entire life of the building.<sup>4</sup> Extending the existing life of a building is common sense, good business, and sound resource management. Preservation has been, and always will be, green.

**i. Role of Commission on Architecture and Urban Design**

The Commission on Architecture and Urban Design (CAUD) was established in 1970 to prevent the deterioration of property belonging to the City or property in which any City funds are involved; and to advise builders or designers in regard to the use of space and the design of structures; and to encourage protection of economic values and proper and appropriate use of surrounding areas. The renovation or removal of any building in the city that is 50 years or older requires CAUD’s review. In recent years CAUD’s role has

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<sup>4</sup> WBDG Historic Preservation Subcommittee (2008, June). *Sustainable Historic Preservation*. Retrieved on December 8, 2008 from website: [http://www.wbdg.org/resources/sustainable\\_hp.php](http://www.wbdg.org/resources/sustainable_hp.php)

diminished and homeowners and developers are increasingly unaware of the requirements when making changes to a historic structure.

### Recommendations

- 1) Increase and strengthen the role of the Commission on Architecture and Urban Design.

#### **Action Steps:**

- i. Revise existing or draft new ordinance that simply and clearly describes CAUD's role and authority.
  - ii. Revise application for projects requiring review by CAUD.
  - iii. Establish and adhere to submission deadlines for projects requiring review by CAUD.
  - iv. Improve meeting process.
- 2) Determine if CAUD has review powers for *all* properties located within Susquehanna Heritage Area.

#### **Action Steps:**

- i. Research NY State Heritage Areas and review powers of local preservation boards.
  - ii. If applicable, develop legislation to clarify CAUD's role in design review for Heritage Area properties.

### Resources

- New York State Certified Local Government Program (2007, March). *The Local Landmarker*. Retrieved October 15, 2008 from website:  
[http://nysparks.state.ny.us/shpo/certified/docs/2007\\_Mar\\_Landmarker.pdf](http://nysparks.state.ny.us/shpo/certified/docs/2007_Mar_Landmarker.pdf)
- New York State Certified Local Government Program. (2006, September). *The Local Landmarker*. Retrieved November 20, 2008 from website:  
[http://nysparks.state.ny.us/shpo/certified/docs/2006\\_Sept\\_Landmarker.pdf](http://nysparks.state.ny.us/shpo/certified/docs/2006_Sept_Landmarker.pdf)

**ii. Education and Outreach**

Property owners within historic districts or who own historic properties are often unaware of the historic status at the time of purchase. This often leads to frustration on part of the owner and of the City when changes are made to the property without proper approvals.

**Recommendations**

- 1)** Develop a pamphlet describing purpose and role of CAUD to be available for distribution.

**Action Steps:**

- i.** Work with CAUD members to determine information to contain in pamphlet.
- ii.** Create layout for pamphlet.
- iii.** Upload pamphlet and relative information to CAUD content page on City website.
- iv.** Determine funding source for printing pamphlets.
- v.** Print pamphlets.
- vi.** Distribute pamphlets.

- 2)** Improve CAUD page on City website.

**Action Steps:**

- i.** Work with CAUD members to determine information to display on website.
  - a.** Include maps of historic areas.
- ii.** Upload information to CAUD content page on City website.

- 3)** Develop signage plan for historic districts.

**Action Steps:**

- i.** Conduct a review of best practices for signage in historic districts.
- ii.** Develop a signage plan for the historic districts.

- a. Include signs denoting the entrance of Historic districts and use distinctive street signed within the districts.

- 4) Develop design standards for historic districts.

**Action Steps:**

- i. Pursue a grant to develop design standards for historic districts.
- ii. Procure a qualified consultant to develop design standards.

- 5) Include information on local landmarks and properties located within the historic districts on the Broome County GIS website.

**Action Steps:**

- i. Provide list of landmark properties to BC GIS.
- ii. Request that BC GIS create a layer that classifies properties as a local landmark or located within a historic district.
- iii. Request that BC GIS include location within historic district or local landmark on Property Information page.

- 6) Include a note on property deed identifying a property's landmark status or location within a historic district.

**Action Steps:**

- i. Work with Corporation Counsel to determine proper language to include on deeds.
- ii. Work with Broome County's Real Property department to include language on deeds.

- 7) Send out annual or bi-annual informational letters to owners of landmark properties and properties located within historic districts.

**Action Steps:**

- i. Meet with the City's Assessment and Data Processing Departments to discuss feasibility of including informational letter with tax or water bills.

- ii. If unfeasible to coordinate with other annual City mailings, create mass mailing for property owners of local landmarks or properties located within historic districts.
- 8) Educate local real estate agents on historic districts, local landmarks, and responsibilities of purchasing or owning a historic property.

**Action Steps:**

- i. Perform outreach to the Greater Binghamton Realtors Association to determine interest in topic and potential workshop.
- ii. Develop content for workshop.
- iii. Identify potential historic locations to host workshop.
- iv. Market event through various media outlets.
- v. Conduct workshop.
- vi. Evaluate effectiveness of workshop.

**Resources**

- Riverhead Landmarks Preservation Commission. (n.d.) *Landmark Preservation in Riverhead: What, Why, and How*. Retrieved November 20, 2008 from website: <http://www.riverheadli.com/riverhead-landmarks.pdf>
- Friedman, J. (n.d.) *Peekskill Preservation Program*. Retrieved November 20, 2008 from website: [http://www.ci.peekskill.ny.us/upload/brochures/hist\\_brochure.pdf](http://www.ci.peekskill.ny.us/upload/brochures/hist_brochure.pdf)
- Village of Roslyn Historic District Board. (2007, September). *Village of Roslyn – Guidelines for Historic Properties*. Retrieved November 20, 2008 from website: [http://www.historicroslyn.org/pdf/01historicproperties\\_09\\_07.pdf](http://www.historicroslyn.org/pdf/01historicproperties_09_07.pdf)

**iii. Loss of historic structures & historic character of buildings**

The number of Binghamton’s historically significant properties decreases every year. Unfortunately many of these properties are lost due to “demolition by neglect.” Additionally, many historic properties and historic neighborhoods undergo changes that compromise its historic integrity.

**Recommendations**

- 1) Strengthen historic preservation regulations in City Code.

**Action Steps:**

- i. Determine best practices for historic preservation regulations.
- ii. Adopt legislation for new regulations.

- 2) Strengthen enforcement of historic preservation regulations.

**Action Steps:**

- i. Conduct training for Code Officers on issues regarding historic properties.
- ii. Create and fill a position for an additional vacant property officer in the Code Enforcement Department.

- 3) Increase fines for Code violations on historic properties.

**Action Steps:**

- i. Conduct study to identify enforceable fine amounts greater than currently exists.
- ii. Adopt new fine hierarchy for violations.

- 4) Expand current historic districts.

**Action Steps:**

- i. Conduct study to identify need to expand boundaries of existing historic districts.
- ii. If expansion is warranted, perform outreach with landowners in proposed new boundary to discuss opportunities and constraints of historic districts.
- iii. Adopt new boundaries for existing districts.

- 5) Create new historic districts.

**Action Steps:**

- i. Conduct study to determine districts to receive a historical designation.

- ii. Perform outreach and educate property owners with parcels located within proposed districts.
- iii. Adopt new districts.

## b) Green Building

Buildings have indisputably significant environmental, economic and health impacts.

According to the United States Green Building Council (USGBC), traditional buildings in the US<sup>5</sup>:

- Represent 72% of the nation's electricity consumption
- Account for 38% of all US CO2 emissions
- Use 40% of raw materials globally (3 billion tons annually)
- Create 136 million tons of building-related construction and demolition debris annually, compared to 209.7 million tons of municipal solid waste

Additionally, indoor air quality problems related to off-gassing of volatile organic compounds from building materials (i.e. formaldehyde and xylene). As people spend 90% of their time indoors, compromised indoor air quality from off-gassing and insufficient ventilation can result in significant negative health impacts (i.e. respiratory ailments, allergies and asthma)<sup>6</sup>.

The green building movement has developed in response to minimize the negative impacts of the built environment. As defined by the United States Environmental Protection Agency (EPA), green building is “the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. Green buildings are designed to reduce the overall impact of the built environment on human health

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<sup>5</sup> US Green Building Council. (2008, November). *Green Building Facts*. Retrieved November 10, 2008 from website: <http://www.usgbc.org/ShowFile.aspx?DocumentID=3340>

<sup>6</sup> Kats, Gregory (2003). *Green Building Costs and Financial Benefits*. Retrieved November 10, 2008 from website: <http://www.cap-e.com/ewebeditpro/items/O59F3481.pdf>

and the natural environment by efficiently using energy, water, and other resources, protecting occupant health and improving employee productivity, and reducing waste, pollution and environmental degradation.”<sup>7</sup> Green buildings make use of energy efficient technologies and design and, on average, consume 30% less energy than conventional buildings. They also reduce operating costs by decreasing water consumption and maintenance costs. The use of environmentally sound materials in green buildings improves indoor air quality (resulting in improved occupant health and worker comfort), conserves natural resources, and reduces solid waste.



The Binghamton University Downtown Center, a LEED certified building.

### Recommendations

The Commission recommends that the City of Binghamton commit to promoting green building practices as an integral part of its sustainable development strategy. In addition to the benefits outlined above, green building also provides opportunities for economic development and job training. A growing number of municipalities across the New York State and the rest of the country are both using policy tools to promote green building and requiring green design for buildings constructed with public dollars. In order to create a plan for promoting green building, the City should create a Green Building Working Group made up of City staff, City Council members, private sector building industry representatives, community members, and other stakeholders. The Green Building Work Group should be tasked with the following:

- i. Developing an ordinance requiring LEED<sup>TM</sup> certification for renovations and new construction of City-owned, public buildings over a specific

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<sup>7</sup> United States EPA (2008). Basic Information; Green Building. Retrieved November 10, 2008 from website: <http://www.epa.gov/greenbuilding/pubs/about.htm>

square footage. The USGBC's Leadership in Energy and Environmental Design (LEED) rating system has become that nation's standard designing, constructing, and certifying green buildings. Numerous municipalities have adopted such requirements (e.g. Syracuse, NY) to show their dedication to sustainability and fiscal responsibility.

- ii.** Reviewing policy tools for incentivizing private construction of green buildings (i.e. density bonuses, permit fee reductions/waivers, tax breaks), and determining the policy tools most appropriate for Binghamton. The Working Group should draft legislation to implement the incentive(s).
- iii.** Advising the City on creating exemplary or showcase green buildings through existing City housing efforts.
- iv.** Considering and making recommendations on requiring building and renovation projects with a certain level of City funding (loans or grants) undergo energy audits and to meet a specific energy efficiency standard.
- v.** Considering and making recommendations on requiring recipients of City building contracts to have either Building Performance Institute (BPI) or Home Energy Rating System (HERS) certified staff on the project.
- vi.** Identifying and eliminating regulatory barriers to using green building techniques.
- vii.** Considering and making recommendations on develop a revolving energy efficiency loan fund that would provide a low interest loan to residents for energy efficiency improvements based on recommendations from an accredited energy efficiency auditor.
- viii.** Considering and making recommendations on promoting the construction of green roofs on residential, public, and commercial buildings.

- ix. Considering and making recommendations on stimulating the development of affordable green housing.
- x. Compiling educational resources on green building for the City of Binghamton's "Greening Binghamton" website. In the short term, the Working Group may wish to utilize existing documents on green building. However, the Working Group should consider developing documents specifically for the City of Binghamton in the long term.
- xi. Advising the City on creating incentives for the reuse of residential and non-residential building, rather than demolition.
- xii. Organizing educational opportunities for City staff, residents, and the professional and building community about the benefits of green building.
- xiii. Identifying additional ways that the City can promote green building.

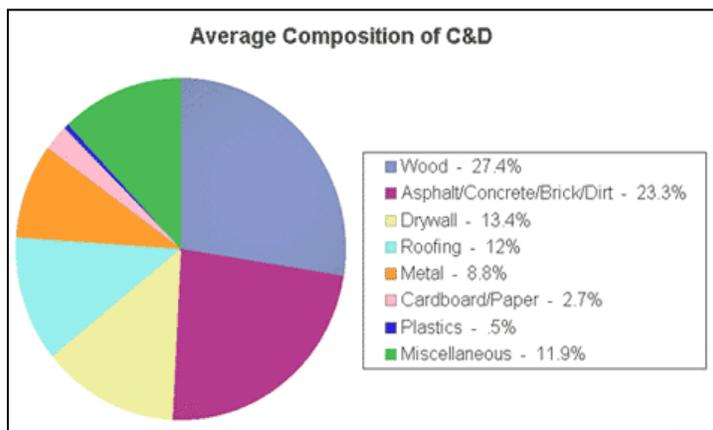
### Resources

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- USGBC (2008). *Summary of Government LEED® Incentives- July 2008*. Available at: <https://www.usgbc.org/ShowFile.aspx?DocumentID=2021>
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- Green Communities (2008). *Sustainable, Affordable, Doable: Demystifying the Process of Affordable Green Housing*. Available at: <http://www.practitionerresources.org/cache/documents/666/66601.pdf>

### c) Construction and Demolition Material Reuse and Recycling

According to project based studies, upwards of 70% of building construction and demolition (C&D) wastes can be reused and recycled<sup>8</sup>. Concrete, asphalt, metals, wood, drywall, asphalt shingles, plastics, tile, carpet, cabinetry, fixtures, and more can be recovered from construction and demolition projects to be reused, recycled, or repurposed. However, estimates from the US Environmental Protection Agency (EPA) indicate that in 2003 only



40% of the nation's 160 million tons of C&D building related materials were reused, recycled or sent to waste-to-energy facilities. The remaining 60% of materials were sent to landfills<sup>9</sup>. C&D materials made up approximately 11.6%<sup>10</sup> of the materials disposed

of at the Broome County Landfill in 2007 and 25% to 45% the waste that goes to our national landfills annually<sup>11</sup>. This should be of concern to us in Broome County, as we look at a 50 year life expectancy for the remaining cell of our own landfill, and as our children and grandchildren will bear the burden of covering over \$30 million dollars to construct a new landfill when the existing one is closed.

<sup>8</sup> Southeast Environmental Financial Center (2004). *Construction & Demolition Debris Recycling for Environmental Protection and Economic Development*. Retrieved October 12, 2008 from website: [http://cepm.louisville.edu/Pubs\\_WPapers/practiceguides/PG7.pdf](http://cepm.louisville.edu/Pubs_WPapers/practiceguides/PG7.pdf)

<sup>9</sup> United States Environmental Protection Agency (2008). *Recover Your Resources: Reduce, Reuse, and Recycle Construction and Demolition Materials at Land Revitalization Projects*. Available at: <http://www.epa.gov/swerosps/bf/tools/cdbrochure.pdf>

<sup>10</sup> Broome County Solid Waste Management (2008). *Personal Communication*. The actual percent of C&D materials disposed of at the Broome County landfill may be higher, as C&D waste that is mixed with other waste is not measured.

<sup>11</sup> Southeast Environmental Financial Center (2004).

Reusing and recycling building materials provides numerous environmental and economic benefits. Diverting materials from landfills can cut project costs by reducing tipping fees, bring in significant revenue for projects through material sales, increase the useful life of landfill space, and supply valuable materials to industry. It also conserves natural resources, decreases greenhouse gas emissions, and stimulates economic development through the creation of recycling businesses and jobs. Deconstruction, the process of dismantling a building to remove materials for reuse and recycling, can also create new jobs and provide opportunities for job training—a great way to understand how things are made and how they work is to take them apart. In addition, functional or aesthetic features that are not found in new products can be offered by salvaged materials. As such, the promotion of C&D material reuse and recycling aligns with the City of Binghamton’s commitment to greenhouse gas emission reduction and sustainable development. Currently, there are numerous barriers to contractors and residents reusing and recycling C&D materials. For example, there is neither a C&D mixed waste or centralized building material recycling facility within Broome County.

### **Recommendations**

The Commission recommends that the City of Binghamton commit to promoting the reuse and recycling of construction and demolition waste.

#### **Action steps:**

- 1) Adopt and gradually increase waste diversion requirements for construction and demolition for projects receiving City funds.
- 2) Develop a construction and demolition diversion ordinance that phases in waste management plan and diversion requirements for construction and demolition projects. This ordinance should be created through a process that allows input and feedback from potentially impacted stakeholders.
- 3) Encourage the use of recycled and reused materials within City projects.

- 4) Work with Broome County to find ways to support the development of local construction and demolition waste recycling and reuse businesses, including a construction and demolition material recycling facility.
- 5) Educate contractors and homeowners about the benefits of and opportunities for construction and demolition waste recycling. For example, the City should provide all Building and Demolition Permit applicants with Broome County's *Reuse & Recycling Guide for Construction*, which outlines the C&D recycling and salvage options available in the county.
- 6) Hold educational events for City Staff, contractors, and the public on deconstruction.
- 7) Promote the practice of deconstruction by implementing model deconstruction projects with funds for City building removal.
- 8) Partner with non-profits and other municipal agencies to develop deconstruction based job training programs.

### Resources

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## 5. Sustainable Economic Development

Prosperity in the 21st Century will be based on creating and maintaining a sustainable standard of living and a high quality of life for all. International, national and regional economic development entities recognize the importance of emphasizing quality of life in development decisions and have begun to adopt the new development model emerging from the Ahwahnee Principles, Smart Growth and SmartCode. Embracing economic, social, and environmental responsibility, this approach more fully integrates planning with development and focuses on the community and the region as critical building blocks for success in building prosperous and livable places.

Economic development organizations (EDOs) strive to grow and improve the communities they serve by attracting and retaining development, residents, and jobs. However, growth and development, if managed improperly, can negatively affect a community's quality of life, leading to automobile congestion, pollution, pedestrian-hostile neighborhoods, and sprawl. To attract an increasing population and to meet the demand for housing, services and infrastructure, local governments are seeking to sustain growth and increase their tax base while preserving the qualities that make their communities pleasant places to live and work.

Local governments seeking to create quality places are employing a range of asset-building techniques such as targeted area redevelopment, revitalization of commercial corridors with businesses, shops, and homes, and increasing transportation options. These strategies aim to provide more convenience and choice for residents and employees and emphasize quality of life.

Increasingly, EDOs are recognizing that such land development practices are tied to economic success as well.

Recent trends in the global economy—industrial clustering and specialization, diversification of the workforce, reintegration of work and home—are placing a premium upon community character and quality of life. Companies are on the move and being drawn to communities that offer a good quality of life. Why? First, companies realize that their workers want to live in communities that offer reasonable commutes, a vibrant social life, environmental amenities, housing and transportation choice. To retain and attract their employees, companies must locate in such environments. Second, business is increasingly conducted beyond the boardroom—in cafes, restaurants, health clubs, public spaces, etc.—places where people can come together, converse, share ideas and network. The suburban office park, filled with buildings and cars but with few destinations, is becoming an outmoded venue for conducting business. Lastly, the private sector in the new economy equates competitive advantage with the ability of being where the action is and to them the action is in urban or town centers. Although technology frees them to locate anywhere, it is proximity to suppliers, a workforce and networks that is drawing business to the central business district (CBD)

This emphasis on place presents enormous opportunities for communities to capitalize on their quality of life assets and to employ them as a tool for economic development. Doing so requires communities to think of quality of life as a commodity that can be cultivated and managed. Communities need to make strategic decisions that improve rather than harm livability and make them lucrative places for business, and labor to locate. The new economy values distinctive places that have the talent, technology and infrastructure to sustain competitive advantage. Talent is attracted to sociable communities—places with destinations, public and civic spaces, environmental amenities—where they can come together with colleagues and friends either through planned or chance encounters. Technological innovation is creating a wired society. Companies value offices and homes that are prewired to enable easy interaction between home and office. Aside from communication infrastructure, the new economy demands physical infrastructure that reduces the cost of business. This means buildings that can be quickly

reconfigured and constructed, housing of varying types and costs, development patterns that are predictable, and transportation systems which increase mobility.

All of the elements covered in this report form the foundation for sustainable economic development in the City of Binghamton. Adopting Smart Growth principles and the SmartCode approach to land use, including more effective storm water management practices, builds the infrastructure necessary for sustainable development to flourish. SmartCode helps to ensure that business development in the city will compliment the character of existing commercial districts and neighborhoods. Selective in-fill further helps to manage the size and nature of new construction. Embracing preservation and adaptive reuse of historic buildings, especially when done in the context of the National Trust for Historic Preservation Main Street approach which the City adopted in 2007, sets a standard for downtown and commercial corridor revitalization that builds primarily on existing resources. Encouraging green building practices and recycling of construction and demolition materials not only preserves resources but also stimulates the local economy by creating new “green collar” jobs and markets (see section below).

One particularly important component of sustainable economic development is “growing our own” businesses. The City of Binghamton has already demonstrated its support of local business through the low-interest loan programs of the Binghamton Local Development Corporation (BLDC) and by partnering with city merchants and the arts sector to launch the *“Think Independent – Buy Local in Downtown Binghamton”* campaign. Locally operated businesses generate and keep revenue in the community. They are more likely to look to other local sources for the products and services they need, thus building on and building up the community’s resources.

The “big-is-better” philosophy has played a strong role in the development of today’s world—we have bigger cars, bigger houses, bigger retail stores, bigger financial conglomerates. We’ve come to associate “big” with “efficiency” and “progress”. However, in the wake of an economic crisis, an unstable financial market, global warming, and the rise of energy costs, we are discovering that we may do better by embracing a different philosophy that emphasizes conservation and focuses on the local scale. Thus, in these times of hardship, it is increasingly

important to support our locally-owned businesses, specifically our local retail businesses which face enormous competition from large chain retailers. Why is it that we should support locally businesses rather than to leave it to the market to determine who will succeed? To begin with, these businesses create the unique character of a community, distinguishing one place from another amongst the rise of strip malls and homogenous developments. Moreover, a growing body of empirical and anecdotal evidence is showing that locally-owned businesses provide more benefits to a community than do chain firms *and* that chain stores actually weaken local economies and create costs that outweigh their benefits.

Studies have demonstrated that locally-owned businesses are far more likely to bolster the local tax base and reduce residential property owners' tax burdens. In 2002, a study in Barnstable, Massachusetts found that downtown stores generated a net annual tax surplus (tax revenue minus cost of services) of \$326 per 1,000 square feet while big box retail stores created an annual tax *deficit* of \$468 per 1000 square feet because of the higher demand they place on infrastructure and police services (Tischler and Associates, 2002). The town of Pineville, North Carolina put a hold on new box store development after discovering that such development over the last decade has consumed all of its produced revenue, largely as a result of the increased police calls (i.e. for bad checks, shoplifting, and parking lot accidents) (The National Trust for Historic Preservation Main Street Center, 2004). Another study in Maine found that locally-owned retailer businesses generate three times as much in local spending relative to their size and profits as do big box stores. Furthermore, local businesses were found to contribute four times as much, as a percentage of their total revenue, to charitable causes as did Wal-Mart Stores, Inc. and twice as much as did the Target Corporation (Institute for Local Self-Reliance, 2003). Finally, in contrast to the often heard claim that large retail stores create jobs, numerous studies have found not only that large chains eliminate as many jobs as they create and reduce average area wages (Neumark et al, 2007; Basker 2005) but that these new, low-wage jobs with few benefits increase the demand for taxpayer-funded low income health care programs (Dube et al, 2007; The National Trust for Historic Preservation Main Street Center, 2004).

The challenges faced by small businesses have not been solely caused by free market competition. Government policies have created an unlevel playing field that makes it difficult for small businesses and traditional commercial centers to thrive. Historically, land use and transportation policies have promoted sprawl and pulled businesses and new development out of existing commercial centers. Large retailers have benefited from multi-million dollar federal and local subsidies as well as tax policies that favor them over their smaller competitors.

Recognizing this history and the benefits of locally-owned retail businesses in comparison to retail chains, many communities have adopted land-use rules that steer new retail development to established business districts, cap the square footage of retail stores, or that require retail projects over a certain size to undergo a comprehensive economic and community impact review. These policies work to ensure that retail development is scaled to the community, makes efficient use of land and public infrastructure, preserves the vitality of existing commercial centers, and creates more benefits than costs to the community—all of which are essential pieces of Smart Growth and sustainable economic development.

The Commission recognized the fifteen principles of Smart Growth in the introduction to this report. Several of them directly support sustainable economic development and should serve as guiding principles for the city's plan.

- **Strengthen and direct development to currently developed areas to take advantage of existing community assets.** Direct development towards existing communities already served by infrastructure. Seek to utilize the resources that existing neighborhoods offer, and conserve open space and irreplaceable natural resources on the urban fringe. Maximize infill potential on vacant land and re-development opportunities on brownfield and greyfield sites to prevent sprawl.
- **Make development decisions predictable, transparent, fair, and cost effective.** Builders wishing to implement smart growth should face no more obstacles than those contributing to sprawl. In fact, incentives might be provided for smarter development.
- **Accomplish goals and strategies for smart growth through coalitions with stakeholders and the public to ensure accountability.** Collaborative efforts can lead to creative resolutions of

development issues and greater community understanding of the importance of good planning and investment which results in great places to live, work, shop and play.

- **Support a diversity of viable business enterprises in downtowns, other neighborhood business districts, and the region, while promoting locally-owned businesses and disadvantaged business enterprises.** Fostering business growth and development in downtown and business districts reinforces those areas as a center of community life and contributes to social integration of all community members. It is also an effective use of existing infrastructure and a way to maximize past public investment in established centers.
- **Promote economic development in ways that produce livable jobs, strengthen low and moderate-income communities, and protect the natural environment.** Economic development is a critical objective for Binghamton’s future. Economic development should not compromise the wellbeing of individuals or families, the natural environment, or the ability of the area to thrive in the future. Good planning practice encourages economic development in ways that minimize disruption of the natural environment. Sustainable economic development can be fostered through “green collar” job training programs.

### Recommendations

1. Formalize the principles above into a core values document for sustainable economic development in the city of Binghamton and present it to internal and community stakeholders for comment.
2. Implement the recommendations made in other sections of this report that provide the policy framework for sustainable development, including updating of the City’s comprehensive plan to incorporate the sustainable principles.
3. Support and amplify “buy local” and “grow our own” initiatives from the Economic Development Office and the community.
4. Organize/support seminars and round-table discussions with developers, business owners and community stakeholders to develop visions for commercial districts.
5. Develop marketing programs and incentives for sustainable development projects.

6. Take further steps to ensure that locally-owned retail businesses will continue to thrive in Binghamton by adopting land use policies to curb development that is not community scaled, will weaken existing commercial centers, or drain public resources.

### Resources

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### a) Green Collar Jobs

The transition away from the traditional manufacturing-based economy has dramatically impacted employment and wages in cities and towns across the United States. Like Binghamton, many post-industrial communities are struggling to revitalize their economies and restore the prosperity they once enjoyed. While some have adopted a “take what you can get” approach to economic development, forward thinking communities are embracing proactive strategies that will prepare them to take advantage of the growing green economy and advance their goals for an environmentally, socially, and economically sustainable future. Specifically, Chicago, Milwaukee, Baltimore, the Bronx, and numerous additional cities are adopting “Green Collar Job” initiatives to cultivate a workforce that possesses the skills needed for jobs in the renewable energy, green building, and energy efficiency sectors.

#### **What Are Green-Collar Jobs?**

“Green-collar jobs are well-paid, career track jobs that contribute directly to preserving or enhancing environmental quality. Like traditional blue-collar jobs, green-collar jobs range from low-skill, entry-level positions to high-skill, higher-paid jobs, and include opportunities for advancement in both skills and wages. Green-collar jobs tend to be local because many involve work transforming and upgrading the immediate built and natural environment—work such as retrofitting buildings, installing solar panels, constructing transit lines, and landscaping.”

*~Apollo Alliance and  
Green For All (2008)*

According to a 2009 report produced by the American Solar Energy Society (ASES), renewable energy and energy efficiency industries alone represented more than 9 million jobs and \$1,045 billion in U.S. revenue in 2007. The authors of the report estimate that as many as 37 million jobs can be generated by the renewable energy and energy efficiency industries in the U.S. by 2030, which would account for more than 17% of all anticipated U.S. employment. This analysis demonstrates the potential for the movement toward sustainable and efficient living to provide a strong, new engine for urban economic growth.

President Obama has expressed his confidence in the strength of the green economy pledging to invest in renewable and efficient energy technology to “end our addiction to foreign oil, address the global climate crisis and create millions of new jobs”.<sup>12</sup> Federal funding for local green collar job initiatives is likely to begin flowing this year through programs such as the Energy Efficiency and Conservation Block Grant (EECBG) program<sup>13</sup>, which would provide direct funding to states, counties, and cities to assist communities in the development and implementation of energy conservation and efficiency strategies. Those communities that have begun developing the strategies and partnerships needed to advance green collar jobs will be best positioned to receive and utilize these federal funds.

### **Recommendations**

The Commission recommends that the City take the initiative to promote the development of green collar jobs in order to help stimulate our local economy, create quality, localized jobs, and to advance the broader goals for sustainability outlined in this report. Toward this end, the City should undertake the five step process for creating green-collar jobs through local government initiatives outlined in the Green Jobs Pledge,

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<sup>12</sup>The White House (2009). *The Agenda: Energy & the Environment*. Retrieved January 14, 2009 from website: [http://www.whitehouse.gov/agenda/energy\\_and\\_environment/](http://www.whitehouse.gov/agenda/energy_and_environment/)

<sup>13</sup> Though established legislatively in the Energy Independence and Security Act of 2007, funds have not yet been appropriated to implement the program. However, on January 14, 2009 the House of Representatives Appropriations Committee passed the American Recovery and Reinvestment Act which included \$3.5 billion for the EECBG.

which has been developed based on successful green collar job efforts in other communities. The Commission would like to emphasize the importance of partnerships with regional businesses, educational institutions, governmental agencies, and non-profit organizations to the success of such an effort, and we encourage the City to view this issue in terms of regional assets and opportunities which may lie outside its jurisdictional boundaries. The five step process consists of the following:

- 1. Commit to Action:** The first step is to affirm your community's commitment to green-collar jobs. This will build public will and raise the visibility of this crucial issue. To accomplish this, sign the Local Government Green Jobs Pledge and pass a County or City Council Resolution detailing the next steps for implementation.
- 2. Create a Green-collar Jobs Taskforce:** A successful green-collar jobs initiative requires the expertise, political capital, and resources of a wide variety of partners. Make sure to identify key leaders in your community and consult, develop, reinvigorate or realign partnerships with potential leaders and organizations such as: community organizations, unions, businesses, workforce development programs, schools, and advocates.
- 3. Identify Goals and Assess Opportunities:** Build your successful strategies around local priorities, business conditions, and economic strengths. Ensure that overarching economic and environmental goals are integrated with job development. For example, when engaging in a comprehensive plan to reduce energy use and greenhouse gas emissions (such as ICLEI's 5 Milestone process - [www.icleiusa.org](http://www.icleiusa.org)), consider how energy conservation programs or renewable energy development will provide opportunities for local job creation.
- 4. Create a Local Action Plan:** A local action plan should address two essential areas: creating demand for green-collar jobs (job creation) and preparing a workforce to meet that demand (job training). This plan must build off of opportunities and partnerships, and align with your economic development and environmental

strategies. Create demand for green-collar jobs with policies, investment, and incentives that expand the market for green products and services. Prepare a green-collar workforce by building on existing training programs that provide job seekers with “pathways out of poverty” and family-supporting, career-track jobs.

- 5. Evaluate, Leverage and Grow:** A successful local strategy for green-collar job creation must be sustained over years. To ensure the longevity of your plan: track progress and quantify your achievements, and build on partnerships and successes to enhance public support and develop new resources!

### Resources

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#### IV. A Call to Action

The City of Binghamton can and should choose to initiate action on sustainability and smart growth. While our community is under enormous pressures to choose a different path, the City must balance present needs with short and long term future needs and work productively and effectively toward sustainable development. Doing so will help to revitalize our community, as well as ensure that our region and beyond may be prosperous in the future. Movement toward sustainability and smart growth should be a prioritized criterion in *all* City decisions rather than an afterthought. The City of Binghamton's maxim should be this: *moving toward sustainability is an opportunity for growth and prosperity.*

## V. Glossary

**adaptive reuse:** Redesign and adaptation of an existing building to accommodate a use different than that for which it was originally built.

**bioretention cells:** are small landscaped, graded areas constructed with a special soil mix and lined with a porous medium that can aid in reducing stormwater runoff, replenishing the aquifer, and filtering nonpoint source pollution. Low maintenance, water-tolerant plants are often used in bioretention cells.

**brownfield:** any real property where development or reuse may be complicated by the presence of or a perceived presence of a hazardous substance, pollutant, or contaminant.

**“Better Site Design”:** Best practice methods of site development that reduce pavement area, reduce and manage stormwater runoff, and preserve natural areas.

**C&D waste:** Construction and Demolition Waste, the trash and excess materials generated by construction and demolition projects.

**CAUD:** Commission on Architecture and Urban Design, a City of Binghamton commission founded in 1970 to reduce deterioration of city funded properties, to advise builders or designers in regard to the use of space and the design of structures; and to encourage protection of economic values and proper and appropriate use of surrounding areas. The renovation or removal of any building in the city that is 50 years or older requires CAUD review.

**“capture and send it off site”:** The traditional method of managing stormwater runoff, which concentrates and directs it into pipes which send it very quickly offsite and do not allow it to be absorbed or infiltrated into the ground.

**channel modification:** Channel modification is the alteration of channel profile, planform, pattern, cross-section, bed elevation, and/or channel location of a stream segment or an entire reach.

**cluster development:** A way of developing land in which the number of houses or other types of buildings allowed by zoning code for a particular parcel are clustered together, rather than spread throughout. The overall number of units is the same, but more open space is preserved for common use, recreation, agriculture, or natural habitat. The cost of providing infrastructure such as roads and utilities is often reduced as well.

**creative redevelopment:** Redeveloping an abandoned building or area with the object of creating a new sustainable use for existing infrastructure. Turning an old refinery into a

park, with the refinery structures remaining as a sort of sculptural display, is an example, as is the redevelopment of an old warehouse into apartments.

**design consistency:** A concept which holds that buildings, site plans, and general infrastructure in particular area should be designed such that they are harmonious and respond to one another in both appearance and construction values, thus increasing the attractiveness and livability of the area.

**downspout disconnection:** Downspouts on many homes are connected directly to the combined sewer system and roof runoff from those homes contributes to combined sewer overflows (CSOs). Disconnecting those downspouts reduces the amount of water entering the system and reduces CSOs and allows roof water to drain to lawns and gardens. It's a more natural way to manage roof runoff because it allows water to soak into the ground as plants and soils filter pollutants.

**dredge spoil:** sediment or debris collected when the bottom of a body of water is dredged.

**form-based code:** The SmartCode is a form-based code. Conventional Euclidean zoning regulates land development with the most emphasis on controlling land use. Form-based zoning has been developed over the last twenty years to overcome the problems of sprawl created by use-based codes. Form-based zoning regulates land development with the most emphasis on controlling urban form and less emphasis on controlling land uses (although uses with negative impacts, such as heavy industry, adult businesses, etc. are still regulated). Urban form features regulated under the SmartCode include the width of lots, size of blocks, building setbacks, building heights, placement of buildings on the lot, location of parking, etc.

**environmental security:** Freedom from the threat of environmental degradation and its consequences to health and welfare.

**frontage:** The length of a given property or building that abuts a public thoroughfare.

**GIS:** Geographic Information System, a computer mapping program that allows creation of maps with many informational overlays tied to real-world geographic reference points.

**green design:** Maximizes water, energy and other resource efficiency, minimizes waste, and maximizes use of recycled and environmentally benign materials in the construction and operation of facilities.

**green building:** Practices and materials that increase the efficiency with which buildings and their sites use and harvest energy, water and materials, and reduce impacts on human health and the environment. This is accomplished throughout the complete building life cycle — siting, design, construction, operation, maintenance, reuse and removal.

**green collar jobs:** well-paid, career track jobs that contribute directly to preserving or enhancing environmental quality. Like traditional blue-collar jobs, green-collar jobs range from low-skill, entry-level positions to high-skill, higher-paid jobs, and include opportunities for advancement in both skills and wages. Green-collar jobs tend to be local because many involve work transforming and upgrading the immediate built and natural environment—work such as retrofitting buildings, installing solar panels, constructing transit lines, and landscaping.

**green businesses:** Economic activities that employ principles and practices that improve the quality of life for their customers, employees and communities, and the environment. They seek to reduce the company’s ecological footprint, provide living-wages to employees, and support local economies.

**greenhouse effect:** The warming of the earth’s atmosphere caused by the buildup of greenhouse gases which prevent the sun’s heat from escaping by absorbing and re-radiating infrared radiation.

**greenhouse gas emissions:** The release, by both natural and manmade processes, of gases such as carbon dioxide and methane known to have a greenhouse effect when in the Earth’s atmosphere.

**green roof:** a roof of a building that is partially or completely covered with vegetation and soil, or a growing medium, planted over a waterproofing membrane. Such a roofing system utilizes vegetation to preventing stormwater runoff, absorb carbon dioxide from the air, reduce building temperatures, filter pollution, and reduce the “heat island effect,” the tendency of metropolitan areas to be significantly warmer than their surroundings. This term does not refer to roofs which are merely colored green, as with green roof shingles.

**greyfield:** Older, economically obsolescent retail or commercial areas, in disrepair with outdated buildings, failing to generate the revenue that would justify their continued use.

**historic preservation:** Putting into place laws, ordinances, and construction codes that protect the historical character of a particular building or area, thereby preserving cultural resources and local character.

**infill:** Development of an area within a region of already existing development that had been for one reason or another left undeveloped or vacant. Note that areas such as parking lots or rail yards are often considered empty for the purposes of this definition.

**LEED:** Leadership in Energy and Environmental Design (LEED) is a green building rating system established by a broad based group of experts led by the National Resources Defence Council, and now administered by the US Green Building Council ([usgbc.org](http://usgbc.org)). LEED employs a tiered rating system ( Certified, Silver, Gold and Platinum) based on a

building's points of compliance with sustainability goals in six major areas: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Indoor Environmental Quality, and Innovation in Design.

**mixed-Use Development:** Projects that combine different types of uses, such as residential, commercial, office, industrial and institutional, into one project.

**off-gassing:** The process by which volatile chemicals evaporate and release from a substance into the air. Materials such as paints, stains, varnishes, carpet, insulation, flooring, kitchen cabinets and countertops, plywood, particleboard, and paint strippers can produce significant off-gassing in your home or office. The fumes from Volatile Organic Compounds (VOCs) seriously affect the quality of air indoors.

**overlay district:** Overlay zoning provides a second layer of regulation that modifies or supplements the requirements of the existing conventional zone. An overlay district is often used to protect a particular resource, such as an underlying aquifer or a historical district.

**permeable Pavement:** pavement which permits water to enter the ground by virtue of its porous nature or by large spaces in the material.

**planted buffer incentive:** Financial incentives offered by municipalities to property owners to encourage them to plant shrubs or trees along their property line to separate incompatible uses, screen service areas and increase greenery.

**runoff:** Rainwater that is not absorbed into the ground and flows downhill on the surface of the ground. Rainwater cannot be absorbed if the ground is frozen, saturated, dried or compacted to a hard crust, covered with an impervious material such as pavement or roofing, or so steeply sloped that raindrops run off before they have time to soak in. Runoff is an environmental concern, as it picks up contaminants such as motor oil, pesticides, manure, and other pollutants and carries them into water bodies. Fats-moving runoff also cause soil erosion and loss of topsoil.

**scenic resources:** The value of the appearance and views of an area as a natural resource. An area with good scenic resources, such as picturesque countryside or a well designed and attractive city will enjoy higher property values than an area without such scenic resources.

**setbacks:** A common element in zoning codes which mandate a minimum distance a building or structure must be set back from property lines.

**SmartCode:** The SmartCode is a model form-based unified land development ordinance designed to create walkable neighborhoods across the full spectrum of human settlement, from the most rural to the most urban, incorporating a transect of character and intensity

within each. It folds zoning, subdivision regulations, urban design, signage, landscaping, and basic architectural standards into one compact document. The SmartCode was originally developed by Duany Plater-Zyberk & Company, as freeware, a template meant to be locally calibrated by professional planners, architects and attorneys. The SmartCode also includes additional supplementary “modules” for: Sustainability, Light Imprint and Drainage, Environmental Standards, Natural Drainage, Architecture/lighting/sound and visibility and Hazard Mitigation Standards.

**sprawl:** Unplanned and inefficient low density development spreading outward from cities over the surrounding rural areas.

**stormwater management:** Methods and practices of reducing and controlling runoff from rainfall in order to prevent flooding, property damage, and water pollution.

**subdivision regulations:** Ordinances governing how a piece of land can be subdivided into smaller parcels and developed.

**sustainable:** Sustainable development is development that “meets the needs of the present without compromising the ability of future generations to meet their own need” (definition by the United Nations Brundtland Commission, 1987)

**traditional neighborhood development:** A type of development that aims to avoid the problems associated with automobile-based sprawl by creating walkable neighborhoods with a mix of commercial and residential uses.

**transect:** A cross-section of the environment showing a range of different habitats. The urban-rural Transect of the human environment used in the SmartCode template is divided into six Transect Zones. These zones describe the physical form and character of the place, according the Density and intensity of its land use and Urbanism.

**Transect Zone (T-Zone):** One of several areas on a Zoning Map regulated by the SmartCode. Transect Zones are administratively similar to land use zones in conventional codes, except that in addition to the usual building use, Density, height, and Setback requirements, other elements of the intended habitat are integrated, including those of the private Lot and building and Public Frontage. (Appendix B)

**transit-oriented development (TOD):** A mixed use residential or commercial area developed with the goal of providing easy access to public transport and reducing dependence on private cars.

**urban design:** A discipline of city planning that is concerned with optimizing the appearance and functionality of an urban area, taking into account applicable factors ranging from the economic to the environmental. “The process of giving form, shape and character to the arrangement of buildings, to whole neighborhoods, or the city.” (Atlanta BeltLine, Inc.)

**urbanism:** Collective term for the condition of a compact, Mixed Use settlement, including the physical form of its development and its environmental, functional, economic and sociocultural aspects.

**urbanized:** Generally, developed. Specific to the SmartCode, developed at T-3(Sub-Urban) Density or higher.

**vegetated Swales:** a broad, shallow channel with a dense stand of vegetation covering the side slopes and bottom. Swales can be natural or manmade, and are designed to trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of storm water runoff.

**vehicle-miles traveled (VMT):** the number of miles that residential vehicles are driven in a specified length of time, generally a day or a year.

**VOCs:** Volatile organic compounds, a collective term for a wide range of organic chemicals that, under standard temperatures, will let off gases into the surrounding air. There are VOCs such as formaldehyde that are found in many building and interior decorating materials, and can permeate the air inside buildings, causing negative health effects.

**walkable communities:** Livable communities with land uses and infrastructure arranged in a manner that facilitates walking and leads to more social interaction, physical fitness, and decreased social problems.

**walkable Neighborhoods:** One of the basic principles in the SmartCode is that towns and cities should be structured as a series of walkable neighborhoods. Walkable neighborhoods require a mix of land uses (residential, office, and retail), public spaces with a sense of enclosure to create “outdoor rooms”, and pedestrian-oriented transportation design.

**watershed:** The area of land where all of the water that drains off goes into the same stream, lake or other water body. A watershed can cross county and state lines. **We all live in a watershed!**” (Center for Watershed Protection)

**watershed protection:** Actions to maintain clean water supplies and protect water resources from degradation by managing stormwater, preventing erosion and discharge of pollutants into water bodies, and other actions.

**xeriscaping:** Climate-tuned landscaping that minimizes outdoor water use while maintaining soil integrity and building aesthetics. Typically includes emphasis on native plantings, mulching, and no or limited drip/subsurface irrigation.

## V. Appendices

### Appendix A

#### Ahwahnee Principles

The Ahwahnee Principles were delivered in the fall of 1991 to approximately 100 local officials at a conference in the Ahwahnee Hotel in Yosemite National Park, California. The principles were the result of efforts of Peter Katz, a staff member of the Local Government Commission and later the author of the book *The New Urbanism: Toward an Architecture of Community* Katz brought together a number of leading architects to draft a vision of community architecture for local officials, an alternative to urban sprawl.

#### **Preamble**

Existing patterns of urban and suburban development seriously impair our quality of life. The symptoms are: more congestion and air pollution resulting from our increased dependence on automobiles, the loss of precious open space; the need for costly improvements to roads and public services; the inequitable distribution of economic resources, and the loss of a sense of community. By drawing upon the best from the past and the present we can plan communities that will more successfully serve the needs of those who live and work within them. Such planning should adhere to certain fundamental principles.

#### **Community Principles:**

1. All planning should be in the form of complete and integrated communities containing housing, shops, workplaces, schools, parks and civic facilities essential to the daily life of the residents.
2. Community size should be designed so that housing, jobs, daily needs and other activities are within easy walking distance of each other
3. As many activities as possible should be located within easy walking distance of transit stops.
4. A community should contain a diversity of housing types to enable citizens from a wide

range of economic levels and age groups to live within its boundaries.

5. Businesses within the community should provide a range of job types for the community's residents.
6. The location and character of the community should be consistent with a larger transit network
7. The community should have a center focus that combines commercial, civic; cultural and recreational uses.
8. The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design.
9. Public spaces should be designed to encourage the attention and presence of people at all hours of the day and night.
10. Each community or cluster of communities should have a well-defined edge, such as agricultural greenbelts or wildlife corridors, permanently protected from development
11. Streets, pedestrian paths and bike paths should contribute to a system of fully- connected and interesting routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees and lighting; and by discouraging high speed traffic.
12. Wherever possible, the natural terrain, drainage and vegetation of the community should be preserved with superior examples contained within parks or greenbelts.
13. The community design should help conserve resources and minimize waste.
14. Communities should provide for the efficient use of water through the use of natural drainage, drought tolerant landscaping and recycling.
15. The street orientation, the placement of buildings and the use of shading should contribute to the energy efficiency of the community.

**Regional Principles:**

1. The regional land-use planning structure should be integrated within a larger transportation network built around transit rather than freeways.

2. Regions should be bounded by and provide a continuous system of greenbelt/wildlife corridors to be determined by natural conditions.
3. Regional institutions and services (government, stadiums, museums, etc.) should be located in the urban core.
4. Materials and methods of construction should be specific to the region, exhibiting a continuity of history and culture and compatibility with the climate to encourage the development of local character and community identity.

**Implementation Principles:**

1. The general plan should be updated to incorporate the above principles.
2. Rather than allowing developer-initiated, piecemeal development, local government should take charge of the planning process. General plans should designate where new growth, infill or redevelopment will be allowed to occur.
3. Prior to any development, a specific plan should be prepared based on these planning principles.
4. Plans should be developed through an open process and participants in the process should be provided visual models of all planning proposals.

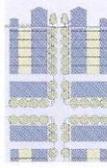
## Appendix B: SmartCode Transect Zone Description Table

### SMARTCODE

### TABLE 1. TRANSECT ZONE DESCRIPTIONS

*Municipality*

**TABLE 1: Transect Zone Descriptions.** The following are general descriptions of the character of each Transect Zone. They may be interpreted as a constituent part of the Intent of this Code.

	<p><b>T1</b> T-1 NATURAL  <b>General Character:</b> Natural landscape with some agricultural use  <b>Building Placement:</b> Not applicable  <b>Frontage Types:</b> Not applicable  <b>Typical Building Height:</b> Not applicable  <b>Type of Civic Space:</b> Parks, Greenways</p>
	<p><b>T2</b> T-2 RURAL  <b>General Character:</b> Primarily agricultural with woodland &amp; wetland and scattered buildings  <b>Building Placement:</b> Variable Setbacks  <b>Frontage Types:</b> Not applicable  <b>Typical Building Height:</b> 1- to 2-Story  <b>Type of Civic Space:</b> Parks, Greenways</p>
	<p><b>T3</b> T-3 SUB-URBAN  <b>General Character:</b> Lawns, and landscaped yards surrounding detached single-family houses; pedestrians occasionally  <b>Building Placement:</b> Large and variable front and side yard Setbacks  <b>Frontage Types:</b> Porches, fences, naturalistic tree planting  <b>Typical Building Height:</b> 1- to 2-Story with some 3-Story  <b>Type of Civic Space:</b> Parks, Greenways</p>
	<p><b>T4</b> T-4 GENERAL URBAN  <b>General Character:</b> Mix of Houses, Townhouses &amp; small Apartment buildings, with scattered Commercial activity; balance between landscape and buildings; presence of pedestrians  <b>Building Placement:</b> Shallow to medium front and side yard Setbacks  <b>Frontage Types:</b> Porches, fences, Dooryards  <b>Typical Building Height:</b> 2- to 3-Story with a few taller Mixed Use buildings  <b>Type of Civic Space:</b> Squares, Greens</p>
	<p><b>T5</b> T-5 URBAN CENTER  <b>General Character:</b> Shops mixed with Townhouses, larger Apartment houses, Offices, workplace, and Civic buildings; predominantly attached buildings; trees within the public right-of-way; substantial pedestrian activity  <b>Building Placement:</b> Shallow Setbacks or none; buildings oriented to street defining a street wall  <b>Frontage Types:</b> Stoops, Shopfronts, Galleries  <b>Typical Building Height:</b> 3- to 5-Story with some variation  <b>Type of Civic Space:</b> Parks, Plazas and Squares, median landscaping</p>
	<p><b>T6</b> T-6 URBAN CORE  <b>General Character:</b> Medium to high-Density Mixed Use buildings, entertainment, Civic and cultural uses. Attached buildings forming a continuous street wall; trees within the public right-of-way; highest pedestrian and transit activity  <b>Building Placement:</b> Shallow Setbacks or none; buildings oriented to street, defining a street wall  <b>Frontage Types:</b> Stoops, Dooryards, Forecourts, Shopfronts, Galleries, and Arcades  <b>Typical Building Height:</b> 4-plus Story with a few shorter buildings  <b>Type of Civic Space:</b> Parks, Plazas and Squares; median landscaping</p>

SMARTCODE VERSION 9.0

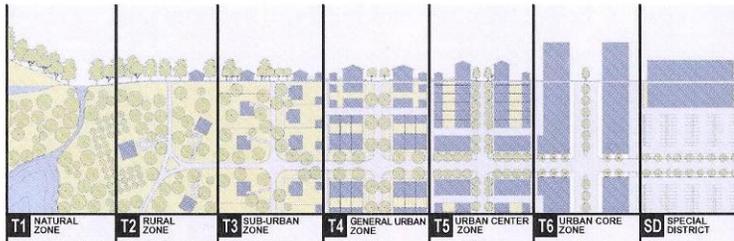
Appendix C:  
SmartCode Summary Table

**SMARTCODE**

Municipality

**TABLE 14. SMARTCODE SUMMARY**

Note: All requirements in this Table are subject to calibration for local context.



	T1 NATURAL ZONE	T2 RURAL ZONE	T3 SUB-URBAN ZONE	T4 GENERAL URBAN ZONE	T5 URBAN CENTER ZONE	T6 URBAN CORE ZONE	SD SPECIAL DISTRICT
<b>a. ALLOCATION OF ZONES per Community (applicable to Article 3 only)</b>							
CLD requires	no minimum	50% min	10 - 30%	20 - 40%	not permitted	not permitted	
TND requires	no minimum	no minimum	10 - 30%	30 - 60 %	10 - 30%	not permitted	
RCD requires	no minimum	no minimum	not permitted	10 - 30%	10 - 30%	40 - 80%	
<b>b. BASE RESIDENTIAL DENSITY (see Section 3.4)</b>							
By Right	not applicable	1 unit / 20 ac avg.	2 units / ac. gross	4 units / ac. gross	6 units / ac. gross	12 units / ac. gross	
By TDR	by Variance	by Variance	6 units / ac. gross	12 units / ac. gross	24 units / ac. gross	96 units / ac. gross	
Other Functions	by Variance	by Variance	10 - 20% min	20 - 30% min	30 - 50% min	50 - 70% min	
<b>c. BLOCK SIZE</b>							
Block Perimeter	no maximum	no maximum	3000 ft. max	2400 ft. max	2000 ft. max	2000 ft. max	* 3000 ft. max with parking structures
<b>d. THOROUGHFARES (see Table 3 and Table 4)</b>							
HW	permitted	permitted	permitted	not permitted	not permitted	not permitted	
BV	not permitted	not permitted	permitted	permitted	permitted	permitted	
AV	not permitted	not permitted	permitted	permitted	permitted	permitted	
CS	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
DR	not permitted	not permitted	permitted	permitted	permitted	permitted	
ST	not permitted	not permitted	permitted	permitted	permitted	not permitted	
RD	permitted	permitted	permitted	not permitted	not permitted	not permitted	
Rear Lane	permitted	permitted	permitted	permitted	not permitted	not permitted	
Rear Alley	not permitted	not permitted	permitted	required	required	required	
Path	permitted	permitted	permitted	permitted	not permitted	not permitted	
Passage	not permitted	not permitted	permitted	permitted	permitted	permitted	
Bicycle Trail	permitted	permitted	permitted	not permitted	not permitted	not permitted	
Bicycle Lane	permitted	permitted	permitted	permitted	not permitted	not permitted	
Bicycle Route	permitted	permitted	permitted	permitted	permitted	permitted	* permitted within Open Spaces
<b>e. CIVIC SPACES (see Table 13)</b>							
Park	permitted	permitted	permitted	by Warrant	by Warrant	by Warrant	
Green	not permitted	not permitted	permitted	permitted	permitted	not permitted	
Square	not permitted	not permitted	not permitted	permitted	permitted	permitted	
Plaza	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
Playground	permitted	permitted	permitted	permitted	permitted	permitted	
<b>f. LOT OCCUPATION</b>							
Lot Width	not applicable	by Warrant	72 ft. min 120 ft. max	18 ft. min 96 ft. max	18 ft. min 180 ft. max	18 ft. min 700 ft. max	
Lot Coverage	not applicable	by Warrant	60% max	70% max	80% max	90% max	
<b>g. SETBACKS - PRINCIPAL BUILDING</b>							
Front Setback (Principal)	not applicable	48 ft. min	24 ft. min	6 ft. min 18 ft. max	0 ft. min 12 ft. max	0 ft. min 12 ft. max	
Front Setback (Secondary)	not applicable	48 ft. min	12 ft. min	6 ft. min 18 ft. max	0 ft. min 12 ft. max	0 ft. min 12 ft. max	
Side Setback	not applicable	96 ft. min	12 ft. min	0 ft. min	0 ft. min 24 ft. max	0 ft. min 24 ft. max	
Rear Setback	not applicable	96 ft. min	12 ft. min	3 ft. min *	3 ft. min *	0 ft. min	
Frontage Buildout	not applicable	not applicable	40% min	60% min	80% min	80% min	
<b>h. SETBACKS - OUTBUILDING</b>							
Front Setback	not applicable	20 ft. min -bldg setback	20 ft. min -bldg setback	24 ft. min -bldg setback	40 ft. max from rear prop.	not applicable	
Side Setback	not applicable	3 ft. or 6 ft.	3 ft. or 6 ft.	0 ft. min or 3 ft.	0 ft. min	not applicable	
Rear Setback	not applicable	3 ft. min	3 ft. min	3 ft.	3 ft. max	not applicable	
<b>i. BUILDING DISPOSITION (see Table 9)</b>							
Edgeyard	permitted	permitted	permitted	permitted	not permitted	not permitted	
Sideyard	not permitted	not permitted	not permitted	permitted	permitted	not permitted	
Rearyard	not permitted	not permitted	not permitted	permitted	permitted	permitted	
Courtyard	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
<b>j. PRIVATE FRONTAGES (see Table 7)</b>							
Common Yard	not applicable	permitted	permitted	not permitted	not permitted	not permitted	
Porch & Fence	not applicable	not permitted	permitted	permitted	not permitted	not permitted	
Terrace or Dooryard	not applicable	not permitted	not permitted	permitted	permitted	not permitted	
Forecourt	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Steep	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Shaftway & Awning	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Gallery	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Arcade	not applicable	not permitted	not permitted	not permitted	permitted	permitted	
<b>k. BUILDING CONFIGURATION (see Table 8)</b>							
Principal Building	not applicable	2 Stories max	2 Stories max	3 Stories max, 2 min	5 Stories max, 2 min	8 Stories max, 2 min	
Outbuilding	not applicable	2 Stories max	2 Stories max	2 Stories max	2 Stories max	not applicable	
<b>l. BUILDING FUNCTION (see Table 10 &amp; Table 12)</b>							
Residential	not applicable	restricted use	restricted use	limited use	open use	open use	
Lodging	not applicable	restricted use	restricted use	limited use	open use	open use	
Office	not applicable	restricted use	restricted use	limited use	open use	open use	
Retail	not applicable	restricted use	restricted use	limited use	open use	open use	

ARTICLE 5  
ARTICLE 2, 3, 4

Source: Duany, Plater-Zyberk and Co. (2008)