



The Shining City on the Hill Report

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1. Introduction

Every visitor to the Chicago lakefront who is moved by the awesome sight of parkland stretching for miles along the lake on one side and the towering skyscrapers on the other is a beneficiary of the brilliance of Daniel Burnham. Burnham realized that a necklace of parks along the lakeshore would provide geographic relief and enjoyment for the citizens of Chicago while preventing the relentless march of buildings to the lake's very edge. Mr. Burnham convinced the civic leaders that the creation of parks along the lakefront would improve the look and feel of the great city for generations to come.

Today, in Kane County, the translation of the policies of the county's *2020 Land Resource Management Plan* into action is giving birth to a new community rising from the banks of Mill Creek in such harmony with the natural beauty surrounding it as to evoke a sense that the very buildings grew there with the trees.

As one approaches this place from the east, the rooftops rising above the canopy that lines Mill Creek is reminiscent of a village or town in the east or in Europe. When the sun is setting, the back drop of light on the rooftops and greenery frames a picture of a shining city on a hill.

For over a mile, following the northwest to southeast bed of Mill Creek, rises this new town named in her honor.

Mill Creek, the community, could never have been possible but for careful adherence to the policies embodied in the *2020 Land Resource Management Plan*. Similarly, the Chicago lakefront is the result of following the Burnham Plan.

Mill Creek is an example of how the *2020 Land Resource Management Plan* can meet the competing goals of halting suburban sprawl and, at the same time, accommodating the need for future development.

2. Mill Creek and the 2020 Plan

“The development of goals begins with values, which are translated into objectives, from which policies aimed at achieving the established goals are generated. The range of policies that can and should be adopted is limited by the values themselves. This factor suggests which policies can work and which cannot. In many cases, while a certain policy would work, the more powerful desires of society will not permit it to work.” *2020 Plan*.



Around the time that the Kane County Development Department staff, under the direction of Phil Bus, was putting together the 2020 Plan, Kent Shodeen had begun the concept approval process for a residential development on his 1,500 acres west of Geneva. Through an interactive process, it was agreed that Mr. Shodeen's project would be something completely different than the subdivisions that had come before. Mill Creek was to be a Planned Unit Development (PUD) that incorporated the goals that were to become embodied in the 2020 Plan. There was a conscious decision on Mr. Shodeen's part to do this because he embraced the values that became the underpinning of the 2020 Plan. Because of his understanding of these values, he was able to shape the planning of his new development in accordance with the policies of the 2020 Plan. In so doing, Mr. Shodeen was breaking the mold of the traditional developer who pushes the envelope with the regulators as far as he can in order to minimize infrastructure and amenities in an attempt to save money.

Instead, Kent Shodeen, through his vision of what could be gained by adherence to the goals of 2020, readily incorporated the improvements into his development needed to bring those goals to reality. He did what is too often uncommon in the development business, he invested in infrastructure on the front end with the belief that the final product would, by virtue of that up-front expenditure, return his investment at a much higher level. Kent Shodeen has been richly rewarded for his vision, both in number of house sales and premium prices. By bucking the desire for immediate gratification, a very powerful motivator in our society, Kent Shodeen has experienced unusual success in his business endeavors and, at the same time, shown the development community that greater profits may be had by faithfully following the 2020 Plan. Mr. Shodeen's vision proved to be 20/20.



3. Housing that Creates Community

“Housing should be provided in a manner that creates a sense of community rather than contributes to conventional suburban sprawl. The County encourages prairie traditional residential design elements which emphasize neighborhood cohesiveness and environmental integrity.

“An example of housing diversity is the multi-family and accessory housing units incorporated into the approved Mill Creek planned unit development. Apartments, townhouses, and ninety accessory units provide greater housing opportunities for single people, couples without children, and empty nesters. These housing options allow a greater generational mix, giving Mill Creek a stronger sense of neighborhood and a means to address the changing demographics of the future.

“Residential character - the appearance and feeling of a residential area - helps to create a sense of community as people take pride in their home and neighborhood. Good residential character is neighborhood-oriented and is integrated with the natural environment.

“‘Prairie Traditional’ is a residential and community design alternative that emphasizes the use of traditional Midwestern building styles, preserves natural features emphasizing natural landscaping and the use of native plants, maximizes open space, and clusters residential units into neighborhoods.

FEATURE: creating housing that promotes a sense of community

“‘Prairie Traditional’ planning aims to create a small town atmosphere where children can play and residents walk without fear of speeding vehicles; where town centers supplying basic goods and services are within walking distance; and where neighbors feel they are part of a community. Such neighborhood-oriented designs also provide diverse housing alternatives not normally achieved by conventional suburban design.



“The hallmarks of ‘prairie traditional’ design are:

- Mixed land uses including diversified residential, limited commercial, and recreational uses.
- Variety of open space areas and functions.
- Protection and enhancement of natural features and landscapes including creeks, wooded areas, hedgerows, land forms, visual links, and emphasizes the use of native plants in landscaping.
- Preservation of historic, cultural, and visual landmarks.
- Preservation or adaptive reuse of existing farm buildings and features.
- Integration of traditional Midwestern building styles and shapes into new design.
- Variety of pedestrian and bicycle friendly transportation links: roads, sidewalks, trails, and green ways.
- Relationships between dwelling units and other uses that create a sense of scale and continuity without monotony.
- Integration of cultural, educational, and social features such as churches, schools, and community centers.”



“Used together, these design principles can create a sense of place - and community - that is often missing from conventional suburban developments. The Kane County Board is providing leadership to the municipalities of the Fox Valley by approving and promoting prairie traditional neighborhoods and communities, where appropriate, as a desired alternative to conventional suburban sprawl.”

2020 Plan

FEATURE: a community where children can play

Craig Shodeen, president of Sho-Deen Incorporated, likes to call Mill Creek a “hometown.” It does indeed resemble the villages or towns one has visited in scenic Colonial American settings. Houses are clustered along tidy curving streets in distinct neighborhoods that all fit together. Everything from spectacular mansions to affordable single-family homes and town homes are to be found here in close proximity, fitting together with each other and blending into the natural surroundings. This look and feel is made possible by the self-contained infrastructure that allows zero lot lines, smaller lots, and common open space. Parks, a golf course, rolling terrain, ponds, hedgerows and mature trees make the neighborhoods blend together into a common community. Commercial space in the Village Center surrounding a commons and anchored by a church add to the “hometown” ambiance.

This is no ordinary subdivision. When completed, there will be 1,700 single-family homes and over 130 town homes clustered in 20 neighborhoods around a Village Center containing a mixture of residences, shopping, services and recreation. Winding through it all is a 27-hole golf course complete with clubhouse. Bike and walking paths are conveniently placed to move people safely along without their cars. The Mill Creek Elementary School and a community center complete this hometown. Despite its giant size, there is no hint of suburban sprawl. This is a compact, cohesive community.



FEATURE: creating housing that has a prairie like feel

4. Providing Breathing Space

“Open space is the counterpart of development. It provides ‘breathing space,’ environmental protection, recreational opportunities, visual beauty, educational opportunities, and countless other benefits.”

“There are two chief functions of open space: environmental protection and community well-being. Well-planned open space areas can serve both of these functions and provide a crucial link between the natural and human environments.

“Open space provides environmental protection through: (1) natural areas preservation; (2) wildlife and native plant habitat protection; (3) surface water quality protection; (4) nonstructural flood control; and (5) protection of groundwater systems.

“Open space provides community well-being through: (1) community identity and separation; (2) aesthetic quality preservation; (3) recreational opportunities; (4) transportation opportunities; (5) educational and spiritual enrichment; (6) cultural and scientific resource protection; and (7) property value enhancement.”

2020 Plan.

Open space, to most developers, is something worth fighting to get rid of. The more open space, the less space for building the houses that generate the profits, the conventional reasoning goes. Shodeen, Incorporated has taken the opposite view at Mill Creek. Here, open space is maximized to the point where more than 43 percent of the entire 1,500 acres is open.

While the golf course makes up a sizable percentage of the Mill Creek open space amenities, other contributors are the green way along Mill Creek, the water reclamation and reuse system, the Village Commons, neighborhood parks, playing fields and walking and bike paths. In addition, many existing hedgerows and most of the mature trees were saved.

FEATURE: provides ‘breathing space’, environmental protection

The tremendous success of Mill Creek in home sales demonstrates to developers that the open space goals of the 2020 Plan, when enthusiastically enacted, can be extremely profitable. Of course the greater good is that the residents of Mill Creek enjoy, and will continue to enjoy through the years, an enhanced quality of life. In addition, the rest of the residents of Kane County can enjoy the beauty the open space preserves and provides with the knowledge that Mill Creek will never be a burden on the county’s environment and ecosystem.



5. Benefiting the Water Resources

“Protection and management of the county’s open space system directly benefit its water resources. Land and water resources are an interacting system. A key example is the five major watersheds of the Fox River that are within Kane County. All lands in these watersheds drain toward their receiving creek - Tyler, Ferson-Otter, Mill, Big Rock-Welch, and Blackberry - and may contribute pollutants to it. In turn, these watersheds drain into the Fox River, a major source of potable water in the county. Any pollutants in surface waters will also make their way into groundwater aquifers, another major source of potable water in the county.

“When managed wisely, green ways along waterways are effective filter strips that trap sediment and pollutants that damage water quality.

“The Mill Creek Planned Unit Development contains over forty percent open space.

This open space has enhanced the development and has extended portions of the regional green way trail system.

“The Fox River and its tributaries are Kane County’s major surface water resources and its greatest natural asset. The challenge facing Kane County is to accommodate future growth and maintain high water quality and sufficient water quantity.

“Several unincorporated areas distribute potable water through community water systems. These systems are located only within planned areas under the charge of a management agency. Community water systems are used as a growth management tool to facilitate goals such as compact growth, diversity of housing, and residential infill development.”

2020 Plan.

The central water supply system of Mill Creek delivers potable water to all the homes and businesses within the development. Owned and operated by the Mill Creek Water Reclamation District (“MCWRD”), the system consists of three wells, the deepest approximately 850 feet deep, high service pumps, pressure tanks, a one million gallon ground storage tank, disinfections facilities and more than 20 miles of water mains. Fire protection is provided by hydrants spaced at regular intervals on every street within the development.

FEATURE: Mill Creek development has over 40% open space

The central water supply system functions much like the water supply systems in the towns to the east. The mains and lines are maintained by the MCWRD. Water meters measure usage providing the MCWRD with the means to bill their customers. The water bills revenue covers the operating and maintenance costs of the water and wastewater systems.



A central water supply system professionally managed and operated ensures uninterrupted high-quality potable water and fire protection for Mill Creek residents. The Mill Creek Water Reclamation District and the central water supply system it operates mirror the policies of the *2020 Plan* and answer the challenge of accommodation of growth and maintenance of high water quality and sufficient water quantity.

6. Wetlands

“Wetlands are a sensitive environmental resource, integral to the hydrologic cycle. Wetlands are ecosystems periodically inundated by water. There are several types of wetlands, differentiated by duration of water inundation, soils, topography, and plant species. Wetland types found in Kane County are wet prairie, marsh, fen, bog, swamp, and river-rain wetlands.

“Wetlands provide multiple uses and benefits to the human and natural communities in Kane County. Some of these are: (1) provide temporary floodwater and runoff storage;

(2) protect water quality by absorbing floodwater contaminants; (3) provide important wildlife habitat through food, water, cover, nesting, and breeding grounds; (4) shape urban form by serving as logical boundaries to development and by buffering incompatible land uses; (5) provide educational and passive recreational opportunities; and (6) enhance the natural beauty of the area.”

2020 Plan.

Because Mill Creek winds its way through the entire length of the development bearing her name, wetlands are abundant on the site.

In the past, these wetlands would have been viewed by the developer as an impediment to profitability as they reduced the acreage available for building lots. Efforts would have been made to drain and fill these ecosystems.

But a recognition of the importance of wetlands drove the planning process at Mill Creek. As such, the boundaries of the wetlands were determined and mapped so that they would be preserved. The neighborhoods were then laid out along the wetland boundaries and earthen berms were engineered so that the wetland resources would not be impacted during construction. These berms also serve the function of restricting storm water runoff to keep pollutants out of the wetlands.

FEATURE: Wetlands are a sensitive environmental resource

The result is a pristine wetland ecosystem on both sides of Mill Creek that will ensure that the creek will not be impacted by the thousands of new residents who will be her neighbors. The wetlands and the creek provide a unique natural and beautiful environment that flows through the heart of the community. By preserving and protecting these wetlands, the developer and the County have ensured a clean and healthy Mill Creek unimpacted by the huge construction project underway along her banks.



Future generations will continue to enjoy the benefits of this far-sighted planning and implementation.

The Mill Creek wetlands are a living sustainable resource worth the study of developers and planners everywhere. An added benefit for Shodeen Incorporated has been the premium prices buyers have been willing to pay for lots adjacent to these undisturbed natural wetlands. Once again, Mill Creek demonstrates in dollars and cents that conformation to the policies of 2020 is also good for the bottom line.

7. Storm water management

“Inadequate storm water management results in a substantial increase in flooding and stream bank erosion and can also cause severe water quality problems. Water may be polluted from street and parking lot runoff containing heavy metals, bacteria, nutrients and petroleum by-products.

“Effective storm water management involves all of the following: an overall plan; a system of drains that is properly designed, constructed, operated, and maintained; storage facilities; and best management practices for water quality. The objective of storm water management is to minimize runoff, maximize water quality, and to retain storm water onsite.”

2020 Plan

When the record rains came in July 1996, subdivisions in Aurora and Batavia were flooded by nearly 16 inches of precipitation in one day. Storm water quickly overflowed streets when storm drains and detention basins filled to capacity. However, at Mill Creek, no flooding occurred. Mill Creek was protected by a state-of-the-art storm water management system that utilizes the natural terrain and overland flow to store and clean storm water before it flows to the creek. The Mill Creek storm water system was designed to retain on site all of the storm water generated in the Federal Emergency Management Authority 10 year storm event. However, because of the synergistic and area-wide planning approach taken to storm water management at Mill Creek, residents found that the system also handled the 100 year storm that flooded out neighboring communities in 1996.



FEATURE: The objective of storm water management is to minimize runoff

The Mill Creek storm water system minimizes the usage of pipes and manholes to carry away storm water and replaces them wherever practical with grass lined swales and ponds. These natural features are an amenity to be enjoyed by the residents when the weather is dry, but spring into action as a cohesive unit to safely and cleanly direct runoff to engineered storage areas. This system serves the objectives of the *2020 Plan* by minimizing runoff and maximizing water quality while retaining storm water onsite.

The Mill Creek natural storm water system worked so well in July, 1996 that the golf course was open for play the day after the worst rain storm of the century.

8. The Role of Sheaffer & Roland

“Land application systems, through the elimination of point source discharges, help maintain and improve the quality of Kane County’s major water resources, as well as provide opportunities to meet the objectives of the county-wide open space system.”
2020 Plan

The Mill Creek community utilizes a land application, spray irrigation wastewater treatment system designed by Sheaffer & Roland, Inc., Geneva. Wastewater from the homes and businesses is conveyed through a conventional sewerage network to a deep cell, heavily aerated lagoon system where it is cleaned and reclaimed in an odor-free environment. Afterwards, the reclaimed water flows into a storage reservoir where it is held during non-irrigation periods. During the irrigation season, the clean water is filtered and disinfected, and pumped to the golf course where it is spray irrigated.

The Mill Creek land application system reuses the reclaimed wastewater, rather than potable water resources, to keep the golf course green. In this way, the wastewater is put to a beneficial use instead of discarded, with its valuable nutrients, into Mill Creek and eventually the Fox River. By recycling the reclaimed wastewater on the golf course, these nutrients help the turf grasses, not the algae in the creeks and rivers, grow.

The Mill Creek land application system has allowed clustered housing on smaller lots than would have been possible with septic systems. In addition, because of the low spray irrigation application rate of the reclaimed wastewater, there is no infiltration of nutrients to the groundwater as occurs with septic fields.

An additional benefit of the wastewater recycling system in the Mill Creek community is that it preserves quality open space. Unlike subdivisions served by septic systems where leach fields lie hidden beneath the ground in large back yards behind every house, Mill Creek’s land application system allows the irrigation area to be centralized in the golf course thereby opening the way for creative land use and site layouts that promote a sense of community through clustered housing. Trees and natural terrain are saved because there is no need to dig extensive leach fields.

The Mill Creek wastewater reuse system presents an environmental alternative to septics and a way to permit planned development beyond the reaches of the sewers of the towns to the east. Reclaimed wastewater reused on the land rather than discharged into Mill Creek, a centralized irrigation area allowing for clustered housing and common open space, and odor-free operation that permits the siting of the system within the community are all attributes of the Mill Creek land application system. The land application system, in many ways, makes the Mill Creek community possible.

(Land application systems, through the elimination of point source discharges)



9. The Three Keys to Watershed Planning

“Imperviousness represents the imprint of development on a watershed. Impervious surfaces include rooftops, roads, driveways, sidewalks, and parking lots. The amount of impervious surface in a watershed directly affects the quantity and quality of runoff, in turn impacting water resources within the entire watershed.

“The relatively low levels of imperviousness in the Mill Creek watershed have contributed to the high levels of biodiversity in portions of the creek west of the City of Geneva.

“The percentage of impervious surface in a watershed can be significantly minimized by using innovative site design methods such as prairie traditional design. Such design methods include (1) clustering buildings to decrease road and parking lot surface; (2) reducing building setbacks to lessen the length of driveways and entry walks; (3) reducing street widths, which also lowers maintenance costs and creates a more neighborly environment; and (4) utilizing flexible street standards.

“Best management practices (BMPs) are the second key component of watershed planning in Kane County. The goal of BMPs is to minimize the adverse impacts of development and to maximize the protection and enhancement of water resources. An effective BMP system:

- Protects open space adjacent to waterways.
- Requires buffer strips along streams and wetlands.
- Stabilizes banks through structural or preferably vegetative means.
- Protects native plant species.
- Controls nutrient loading from both new development and agricultural land uses.
- Minimizes pollutants and pesticides from both new development and agricultural land uses.

“The first step in the design of a BMP system that protects watersheds is the selection of an appropriate and achievable watershed target. Target is a term that refers to the level of stream quality within a watershed that will exist when all development is completed.

Although there are a number of possible watershed targets, the Illinois Biological Stream Characterization (BSC) rating system provides a quantifiable measure of water quality. The target for all Kane County streams should be a Class B (good) rating or better...”

“Because watershed boundaries often overlap governmental boundaries, cooperation between various units of government is the third key component to effective watershed planning and the achievement of water quality, especially in the central portion of Kane County. The county and various local agencies have been cooperatively developing a demonstration project to integrate watershed and land use planning techniques in the Mill Creek watershed.

“Mill Creek watershed spans a 30 square mile area over portions of Campton, Blackberry, Batavia, and Geneva Townships. The area is notable for its rural character, scenic beauty, and natural resources. The Mill Creek watershed offers extraordinary opportunities for watershed planning and achieving a Class B (good) BSC target through establishment of a multiple use/multiple benefit demonstration site. The concept for the demonstration site is being developed by the Mill Creek Task Force. Some uses and benefits of the site would be: a wetland mitigation bank, watershed stormwater management, aeration lagoons and land application of wastewater, yard waste composting, vegetative diversity, and wildlife habitat. The Mill Creek multiple use/multiple benefit demonstration site can become a model for future efforts in the other four major watersheds in the Critical Growth Area...”

At Mill Creek, the innovative site design of land planners Don Ensign of Design Workshop, Aspen, Colorado and St. Charles resident David Yocca mirrors the prairie traditional design recommended in the 2020 Plan. Central water and sewer systems make clustering of buildings and smaller lots possible. Shorter driveways and narrower streets reduce impervious surfaces. Maintaining over 43% of the entire site as open space protects and enhances the water quality of Mill Creek by preserving open space buffers next to the creek and her wetlands which filter storm water runoff and stabilize the creek banks. Here, native plant species thrive and contribute to the natural environment and health of the creek.



By recognizing and emphasizing watershed planning, the 2020 Plan can be instrumental in protecting the environmental integrity of the Fox River's tributaries flowing through central Kane County. Just as no man is an island, no stretch of a creek between artificial governmental boundaries is an isolated ecosystem. Rather, the creek from its headwaters to its confluence and all the land that it drains and the groundwater beneath that land are all components of one integrated watershed. Development within the watershed will affect the quality of the surface waters therein. Minimizing that effect is the goal of 2020 and the Mill Creek community demonstrates how it can be done. Through implementation of the Best Management Practices of the 2020 Plan, the Mill Creek community is a good neighbor to the Mill Creek watershed, even during construction.

A protected watershed yields a clean and attractive creek. Through watershed planning, Mill Creek is treated as an amenity and by implementing that watershed plan the developer has enhanced the value of his lots adjacent to the creek. Today, it pays for a developer to be environmentally aware.

Kane County Water Resources Policies:

- Preserve and improve the water quality of the Fox River and its tributaries and the tributaries of the Kishwaukee River in order to maximize their potential for wildlife habitat, recreational, and other uses.
- Manage wastewater treatment in an effective and environmentally sound manner conducive to public health, including the encouragement of wastewater recycling and reuse systems with land application to eliminate point discharge of wastewater into creeks.
- Require that the Illinois Environmental Protection Agency deny amendments to any Facility Planning Area which would create a new or increased point source discharge where such discharges would prevent Kane County from achieving its objective of Class B or greater stream quality.
- Encourage the State of Illinois to review and upgrade its Biological Stream Characterization Assessment by 1999.
- Develop a multiple use/multiple benefit demonstration site in the Mill Creek watershed to effectively demonstrate how integrated land use and water resource management improves stream quality.”

2020 Plan

The Kane County Water Resources Policies enumerated in the 2020 Plan form a roadmap to a clean and healthy watershed and that map leads to Mill Creek.

If all future development in central Kane County adheres to the policies adopted at Mill Creek, then the 2020 Land Resource Management Plan will prove a lasting legacy.

The legacy of Daniel Burnham

“In 1909 Daniel Burnham coauthored a visionary and farsighted plan for the Chicago region. A major part of that plan was the creation of a large interconnected open space system extending from Lake Michigan westward. A 1956 follow-up coauthored by Daniel Burnham, Jr. recorded the accomplishments of the 1909 plan and sounded a call to continue its vision.

“The 1956 Burnham Plan recognized Kane County for its efforts in establishing a Forest Preserve District and in acquiring open space. Kane County began open space conservation in 1926 with the acquisition by the newly established Forest Preserve District of Johnson's Mound Forest Preserve. This was followed in 1928 by the acquisition of Bliss Woods, Elburn, and Tyler Creek.

“The 2020 Land Resource Management Plan carries forth the Burnham legacy and challenge.”