5. Agricultural, Natural, and Cultural Resources

5.1 Introduction

The basic purpose of this element is to provide background information on a wide variety of agricultural, natural and cultural resources and features in the Village of Kekoskee. This information will help the Village recognize and identify important resources that need to be protected and/or effectively managed. It will also identify if there is anything that may limit the development potential within the Village (e.g. poor soils, floodplains, wetlands, bedrock, ground water pollution, etc.).

While Wisconsin's natural resources benefit each community, they are also susceptible to internal and external forces. For example, the increasing human demands by a growing state population increase consumption of water, land, and raw materials. Our natural resources generally do not increase to meet this extra demand.

There are many state and federal regulations designated to protect Wisconsin's natural resources and rightfully so. Some state laws, including those for floodplains, shorelands, and wetlands, establish minimum use and protection standards that must be adopted and administered by local governments. But not all natural resources are protected by state law. Local governments throughout the state have the flexibility to plan for and develop their own local ordinances to deal with the unique land use issues/conflicts in their community and to protect the natural resources that they value most. As population growth, land consumption, and technological improvements continue, communities need to take on the additional role of stewards and protectors of these resources.

Land development patterns are directly linked to the natural, agricultural, and cultural resource bases of each community. Therefore, these features need to be considered before making any decisions concerning future development within the community. Development must be carefully adjusted to coincide with the ability of the agricultural, natural and cultural resource base to support the various forms of urban and rural development. The Village of Kekoskee has significantly more agricultural land than most villages and it will stay a significant part of the villages' economy and quality of life.

5.2 Soils

Soils in the region were formed from the Pleistocene deposits transported by continental glaciers that moved across the land many thousands of years ago. According to the Soil Survey of Dodge County produced by the Soil Conservation Service of the U.S. Department of Agriculture, the primary soils in the Village of Kekoskee are within two soil associations, Houghton-Pella, which is found primarily in the west, and Theresa-Lamartine-Hochheim, which is found in the east.

The Houghton-Pella association is comprised of deep, nearly level, very poorly drained sub soils. In cultivated areas, the main management concern is drainage. The major soils have poor potential for sanitary facilities and building site development. The Theresa-Lamartine-Hochheim

association contains deep, nearly level to steep, well-drained and somewhat poorly drained soils that have silty and loamy subsoil. Most of the soils in this association have good to fair potential for all the cultivated crops commonly grown in the county. In cultivated areas, the main concerns of management for Theresa and Hochheim soils are controlling erosion and maintaining good soil tilth. Theresa and Hochheim soils that have slopes of less than 6 percent have mainly good potential for sanitary facilities and building site development. Lamartine soils have poor potential for these uses.

In addition, according to the Dodge County Soil and Conservation Service, the area is comprised of five soil types. One of the soils (Mayville silt loam) is classified as prime farmland, and three of the soils (Pella silty clay loam, Lamartine silt loam, and Brookston silt loam) are classified as prime farmland where drained. These soils are drained. The remaining soil type (Theresa silt) is not prime farmland. In total, over 80 percent of the area could be classified as prime farmland (See Map 14).

5.3 Agriculture and Farmland

According to the Census of Agriculture, the amount of land in farms in Dodge County in 2017 was 405,992 acres compared to 412,949 acres in 2007, a decrease of 1.7 percent. For the same period, the average size of farms increased from 205 acres in 2007 to 232 acres in 2017, an increase in 11.0 percent. The number of farms decreased from 1,979 farms in 2007 to 1,749 farms in 2017, a decrease of 11.6 percent. Refer to Chapter 6, Economic Development, for further detail on the economic impacts of agriculture in Dodge County. The following tables detail some of the key agricultural production statistics from Dodge County, comparing 2012 with 2017.

Table 5-1: Agricultural Production, Dodge County, 2012, 2017

Commodity	Annual Production 2012	Annual Production 2017
Soybeans	3,066,517 bushels	4,559,811 bushels
Corn for grain	17,155,494 bushels	24,652,186 bushels
Corn for silage	401,826 tons	587,125 tons
Oats for grain	187,755 bushels	89,525 bushels
Wheat for grain	926,170 bushels	901,576 bushels
Cattle and calves	104,756 head	113,441 head

Source: Agricultural Census 2012, 2017

Annual production for soybeans, corn for grain, corn for silage, and the number of cattle and calves increased significantly from 2012 to 2017. For the same time period, production decreased for oats and wheat. Dodge County ranked in the top five Wisconsin counties for soybean, corn for grain, and winter wheat production in 2017. Maps 14 & 15 in Appendix A show the significance of farmland throughout the Village.

Table 5-2: Number of Dairy Cows and Milk Production 2012-2017, Dodge County, Wisconsin

	2012	2017
Number of cows	39,000	40,000
Milk per cow (pounds)	21,600	25,000
Total milk produced (1,000 pounds)	842,400	1,000,000

Source: Wisconsin 2013, 2017 Agriculture Statistics report (2012, 2016 data)

Despite only a 2.5 percent increase in the number of cows from 2012 to 2017, milk production increased by nearly 19.0 percent as shown in Table 5-2. For the same time period, milk production per cow increased by 15.7 percent. The data clearly shows the increased milk production per cow likely the result of advancements in dairy genetics and feed science.

5.4 Geology

Exhibit 5-1: Sand and Gravel Potential of Selected Glacial Landforms

Glacial Landform	Sand and Gravel Potential
Outwash (plains, terraces, fans and valley trains)	Likely source of commercial deposits. Generally found in flat-lying formations of varying quality and depth.
Ground Moraine	Low potential. Production is limited to other glacial landforms superimposed on the ground moraine, including gravel-cored drumlins and isolated kames, eskers and similar features.
End Moraine	Low potential. Isolated, small pockets may exist in association with outwash plains and ice contact deposits.

Source: Land Resources Analysis Program, 1976

The bedrock underlying the Village primarily consists of sandstone and limestone. Beneath these sedimentary rocks is the crystalline rock, which is impermeable to water. Rhyolite, granite and basalt are common components. The surface geology and landforms in the region (and much of Wisconsin) were formed by continental ice sheets that advanced and retreated from the region several times during the period of time known as the Pleistocene Epoc. Glaciated deposits are grouped into two categories depending on how the materials were moved. If moving water transported the materials, the resulting deposits are referred to as outwash deposits and are characterized by well-sorted materials and stratified layers. If the ice sheets physically moved or carried the materials, the deposits are unsorted and unstratified and are known as till deposits. Although there are two main types of glacial deposits, they appear in a wide variety of landforms.

The Village of Kekoskee lies within the Eastern Ridges and Lowlands geographical province. Glacial landforms in the area include a number of cuestas and escarpments that form a belted plain. This plain will have parallel strips of uplands and lowlands. The uplands are called cuestas and the lowlands have been called vales. The cuestas are ridges that have a steep escarpment on one side and a long gentle slope on the other. The Village is part of the Magnesian cuesta.

Perhaps one of the most unique and prominent geologic features in the Kekoskee area is the Niagara Escarpment, locally known as "the Ledge", which hugs the eastern edge of the Horicon Marsh and extends further south to the Town of Iron Ridge and the Neda mines. Generally speaking, an escarpment is a steep ledge or bluff that separates two areas of differing elevation. The Niagara Escarpment is a layer of bedrock made up of limestone cliffs and talus slopes appearing like a giant saucer with the western edge in Wisconsin and the eastern edge in New York. The endurance of the Ledge is attributed to the erosion-resistant material that forms it. It is made of Silurian limestones and dolomites. Dolomite, the main ingredient, was formed by calcium and magnesium carbonate deposited from decomposing shells and skeletons of primitive sea life which lived in a subtropical coral reef over 400 million years ago. The escarpment was once the edge of a coral reef formed in the warm, clear, shallow salt waters at the edge of the giant Michigan basin. At the time, this ancient inland sea basin covered all of what are now Lower Michigan, Lake Michigan and eastern Wisconsin.

A layer of soft, impermeable layer called Maquoketa shale lies beneath the Ledge. It is in part because of this relatively soft shale layer that the Horicon Marsh was later formed by glacial action. It is also in part because of this impermeable shale bed that many crystal-clear springs form at the base of the Ledge. These springs were formed where glaciers deposited drift consisting in part of impermeable clays. Water flow continues on to eventually drain into the Horicon Marsh or Lake Winnebago.

Besides ancient marine life and the resulting up warping, glacial ice also molded the Ledge. In some places successive glaciers obliterated it, making it a difficult landscape feature to follow in southern Wisconsin. In other places, glaciers created huge fissures and crevasses. The Ledge would certainly be higher and sharper without the impacts of this glacial scouring and bulldozing.

As the Horicon Basin was being carved out of the land the advancing ice also created a series of elongated hills, called drumlins. The 2 large hills comprising Quick's Point are drumlins. The islands located within the marsh are also drumlins. Dodge County and the surrounding area have the highest concentration of drumlins in the world.

Today the Ledge is known to harbor many rare species and important natural communities found in few places elsewhere in the world. This remarkable assemblage of plants and animals is of global importance. In addition, evidence of the oldest known humans living in Wisconsin has been found on the Oakfield Ledge: a projectile point over 11,200 years old. The Ledge near Horicon Marsh and continuing up to Fond du Lac is an apparent significant site for religious ceremonies, navigational landmarks, and astronomical observations for ancient Native Americans, still visited today. Sites along it contain petroglyphs, Native American rock art, and markings associated with the solstices and possibly the lunar cycle.

A United States Government land surveyor as part of the Wisconsin Territory Survey first mapped the Ledge as a prominent land feature in 1836.

5.5 Vegetation

Pre-settlement natural vegetation in the area consisted primarily of oak savannas in the central part of the county, sugar maple, basswood, and elm in the eastern and southern parts of the county,

white, black, and red oaks in the southeastern part of the county, and sedge meadows in the wetter northeast portion of the county near the Village of Kekoskee.

Since white settlement, fires have largely been controlled resulting in a change in vegetation and many of the prairies have been converted to agricultural uses. Many of the areas not used for agricultural purposes have developed into dense, closed forest ecosystems. On dryer hillsides, forests of white, red and black oak dominate, while mesic forests of sugar maple, basswood and elm are common on wetter sites. Originally small woodlots and forested fence lines were common with small farms to provide sources for firewood and cooling for pasturing cows. Today, most are retained for wildlife habitat and forestry management.

5.6 Metallic and Non-Metallic Mineral Resources

Wisconsin Administrative Code NR 135 requires that all counties adopt and enforce a Non-metallic Mining Reclamation Ordinance that establishes performance standards for the reclamation of active and future non-metallic mining sites, but not abandoned sites. It is intended that NR 135 will contribute to environmental protection, stable non-eroding sites, productive end land use, and the potential to enhance habitat and increase land values and tax revenues.

There are no known remaining metallic mineral deposits of economic value in or near the Village of Kekoskee. Mineral resources in Dodge County are nonmetallic in nature including sand, gravel, shale and limestone. The Niagara Escarpment is a source of commercial grade stone and is also the location of iron deposits, which were once mined in the area.

Sand and gravel resources are often referred to as “pits.” The term “quarry” is appropriate for limestone because such operations require controlled blasting to remove material. All mineral extraction operations are subject to state rules regarding dust control, blasting, safety, and reclamation. The most familiar uses for such nonmetallic mineral resources are road building and maintenance. The materials are also used in the construction of residential, commercial and public buildings, bridges, sewer and septic systems, and use in erosion control measures.

Although most of the commercial sources of sand and gravel are generally associated with the outwash deposits, isolated pockets of sand and gravel can be found as summarized in Exhibit 5-1.

5.7 Surface Water and Wetlands

The Village is located primarily in the Upper Rock River Basin between the Rock River and the East Branch of the Rock River within the East Branch Rock River watershed. The Rock River drains Dodge County toward the south, eventually emptying into the Mississippi River. The Rock River is generally oriented in a north-south direction near the Village of Kekoskee (See Map 8).

The glacial history of Dodge County left a poorly developed drainage system, shallow depressions for lakes, and numerous wetland areas. As a result, there are very few lakes in the county and the existing lakes are very shallow in depth, averaging only about seven feet.

Over 21,000 acres of surface water cover parts of Dodge County, including 31 lakes and 50 rivers and streams. Table 5-3 details the amount of surface water found in Dodge County. Map 8, Appendix shows Watersheds, Streams, and Surface Waters.

Table 5-3: Surface Water, Floodplain, Dodge County

	Surface Water		Floodplains	
	Acres	% of Total	Acres	% of Total
Town of Ashippun	108.8	0.5%	4,757.2	3.5%
Town of Beaver Dam	2,237.4	10.6%	5,260.0	3.8%
Town of Burnett	409.5	1.9%	9,495.9	6.9%
Town of Calamus	329.0	1.6%	8,223.4	6.0%
Town of Chester	998.9	4.7%	10,243.2	7.5%
Town of Clyman	49.1	0.2%	2,977.2	2.2%
Town of Elba	260.1	1.2%	5,403.8	4.0%
Town of Emmet	39.5	0.2%	2,766.9	2.0%
Town of Fox Lake	4,063.8	19.3%	8,907.2	6.5%
Town of Herman	25.9	0.1%	2,232.4	1.6%
Town of Hubbard	1,732.5	8.2%	3,253.8	2.4%
Town of Hustisford	1,219.3	5.8%	9,394.9	6.9%
Town of Lebanon	200.4	1.0%	9,314.3	6.8%
Town of LeRoy	717.6	3.4%	6,048.3	4.4%
Town of Lomira	28.7	0.1%	853.9	0.6%
Town of Lowell	497.0	2.4%	6,993.3	5.1%
Town of Oak Grove	222.0	1.1%	5,519.1	4.0%
Town of Portland	406.4	1.9%	7,640.5	5.6%
Town of Rubicon	261.9	1.2%	3,546.3	2.6%
Town of Shields	334.2	1.6%	4,407.2	3.2%
Town of Theresa	360.1	1.7%	1,984.4	1.5%
Town of Trenton	499.3	2.4%	1,547.4	1.1%
Town of Westford	3,404.1	16.1%	6,060.4	4.4%
Village of Brownsville	0.1	0.0%	0.0	0.0%
Village of Clyman	0.0	0.0%	0.0	0.0%
Village of Hustisford	132.3	0.6%	0.0	0.0%
Village of Iron Ridge	2.2	0.0%	1.6	0.0%
Village of Kekoskee	1,247.3	5.9%	9,618.0	7.0%
Village of Lomira	10.0	0.0%	0.0	0.0%
Village of Lowell	36.3	0.2%	0.0	0.0%
Village of Neosho	21.8	0.1%	48.5	0.0%
Village of Randolph*	0.2	0.0%	0.0	0.0%
Village of Reeseville	0.5	0.0%	0.0	0.0%
Village of Theresa	14.4	0.1%	38.3	0.0%
City of Beaver Dam	874.9	4.1%	0.0	0.0%
City of Columbus*	1.3	0.0%	0.0	0.0%
City of Fox Lake	35.3	0.2%	0.0	0.0%
City of Hartford*	1.3	0.0%	0.0	0.0%
City of Horicon	132.3	0.6%	0.0	0.0%
City of Juneau	0.2	0.0%	0.0	0.0%
City of Mayville	72.4	0.3%	177.5	0.1%
City of Watertown*	0.0	0.0%	0.0	0.0%
City of Waupun*	106.0	0.5%	0.0	0.0%
Total	21,094.3	100.0%	136,714.9	100.0%

*Community partially located outside of county, acreage only includes portion in the county.
Source: Dodge County Land Resources and Parks Department.

The hydrology of soils, or the amount of water saturation present, largely determines how the soil develops and the types of plant and animal communities living in and on the soil. Wetlands may support both aquatic and terrestrial species. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promotes the development of characteristic wetland (hydric) soils.

Wetlands may be seasonal or permanent and are commonly referred to as swamps, marshes, fens, or bogs. Wetland plants and soils have the capacity to store and filter pollutants ranging from pesticides to animal wastes. Wetlands can make lakes, rivers, and streams cleaner, and drinking water safer. Wetlands also provide valuable habitat for fish, plants, and animals. In addition, some wetlands can also replenish groundwater supplies. Groundwater discharge from wetlands is common and can be important in maintaining stream flows, especially during dry months.

Most of the significant wetlands in the Village are associated with the Horicon Marsh, which dominates the western portion of the Village of Kekoskee. The majority of the marsh is classified as an emergent/wet meadow, narrow-leafed persistent, standing water, and palustrine wetland with evidence of muskrat activity. In the eastern portion of the Village of Kekoskee, the scattered wetlands are predominantly persistent emergent/wet meadows. These areas are not suitable for development and should be avoided. However, development opportunities may be generated by the tremendous viewshed the marsh and ledge provide together. Map 7, Elevation Changes, shows the relationship both features offer.

Local, state, and federal regulations place limitations on the development and use of wetlands and shorelands. The Wisconsin Department of Natural Resources (WDNR) has inventory maps for each community that identifies wetlands two acres and larger. The wetland inventory map should be consulted whenever development proposals are reviewed in order to identify wetlands and to ensure their protection from development. There are approximately 9,700 acres of wetlands found in Village of Kekoskee, most associated with the Horicon Marsh.

5.8 Floodplains

For planning and regulatory purposes, the floodplain is normally defined as those areas, excluding the stream channel, that are subject to inundation by the 100-year recurrence interval flood event. This event has a one percent chance of occurring in any given year. Because of this chance of flooding, development in floodplain should be discouraged and the development of park and open space in these areas encouraged. The floodplain includes the floodway and flood fringe. The floodway is the portion of the floodplain that carries flood water or flood flows, while the flood fringe is the portion of the floodplain outside the floodway, which is covered by waters during a flood event. The flood fringe is generally associated with standing water rather than rapidly flowing water. Recent concerns over climate change stem from increased intensity of storm events (more rain with a shorten period). What was once a 100-year occurrence, may be trending in a more common direction.

Wisconsin Statute 87.30 requires Counties, Cities, and Villages to implement floodplain zoning. In addition, the Federal Emergency Management Agency (FEMA) has developed flood hazard data. Table 5-3 details the acreage of floodplains found in the communities of Dodge County. Also, refer to Map 8 located in the Appendix for general locations at this time. The Village of Kekoskee has a floodplain ordinance.

5.9 Groundwater Resources

Groundwater in Dodge County is contained in layers of porous bedrock in four geologically distinct aquifers. Water in an aquifer travels underground from its source to a discharge point such as a well, wetland, spring or lake. Groundwater moves through these aquifers in an artesian system

and a water table system. In an artesian system the water moves because it is under pressure created by a confining layer of impervious rock. In a water table system the water is not under pressure and flows by gravity. The artesian system is present in the northeastern corner of Dodge County where the Village of Kekoskee is located. The lowest aquifer is composed primarily of sandstone and is the most productive aquifer. Aquifers closer to the surface tend to yield lesser amounts of water. Large undeveloped supplies of good quality groundwater for domestic, commercial, and agricultural uses are available in Dodge County.

The Platteville-Galena aquifer provides water for the central two-thirds of Dodge County. Water from this aquifer is obtained from the water table system except where it is overlain by Maquoketa shale. This layer of impervious bedrock in the northeast and east central portion of the County effectively prevents water movement. Therefore, in the Village of Kekoskee that portion of the aquifer underlying the Maquoketa shale provides water through the artesian system. Lateral movement of water from the west also recharges this portion of the aquifer. The groundwater level is continually changing due to well pumpage and recharge from precipitation. Because of continual pumpage from Milwaukee and Chicago, the water level in the artesian system is declining regionally.

The Department of Natural Resources maintains a database containing well information for many public and private wells in the State. A review of this database found that there are some wells with elevated levels of nitrates and volatile organic compounds. Nitrates can commonly enter the groundwater from individual septic systems and from standard farming practices. Within the boundaries of the Village there are a number of designated atrazine prohibition areas as delineated by the Wisconsin Department of Agriculture. In the Village of Kekoskee this would include the southern half of section 36, all of sections 1 and 2, and the northern half of sections 11 and 12. Atrazine is a chemical used to grow corn and is often found in groundwater in the area and region.

5.10 Environmental Corridors/Sensitive Areas

Environmental corridors are continuous systems of open space that often include environmentally sensitive lands including woodlands, wetlands and habitat areas, natural and cultural resources requiring protection from disturbance and development, and lands needed for open space and recreational use (refer to Map 9, located in the Appendix). Environmental corridors serve multiple functions. Protection and preservation of environmental corridors contribute to water quality through reduction of non-point source pollution and protection of natural drainage systems. Environmental corridors can also protect and preserve sensitive natural resource areas, such as wetlands, floodplains, woodlands, steep slopes, native grasslands, prairies, prairie savannas, groundwater recharge areas, and other areas that would impair habitat and surface or groundwater quality if disturbed or developed.

5.11 Threatened and Endangered Species

The Wisconsin Department of Natural Resources (WDNR) lists species as "endangered" when the continued existence of that species as a viable component of the state’s wild animals or wild plants is determined to be in jeopardy on the basis of scientific evidence. "Threatened" species are listed when it appears likely based on scientific evidence that the species may become endangered within the foreseeable future.

The following Table 5-4 identifies the threatened and endangered species that can be found in the Village of Kekoskee. Be advised that threated or endangered species status can change based on new information. The WDNR maintains a list of most recent information.

Table 5-4: Threatened and Endangered Species, Village of Kekoskee

	Status	Taxa
Acadian Flycatcher	Threatened	Bird
Black Tern	Endangered	Bird
Forster's Tern	Endangered	Bird
Great Egret	Threatened	Bird
Blanchard's Cricket Frog	Endangered	Frog

Source: Wisconsin Department of Natural Resources National Heritage Inventory (NHI)

5.12 Wildlife Habitat and State Natural Areas

Wildlife habitat can be simply defined as the presence of enough food, cover, and water to sustain a species. The wildlife habitat of Village of Kekoskee is particularly accommodating to waterfowl. In addition to hundreds of thousands of geese that migrate to the Horicon Marsh each spring and fall, the county's numerous marshlands are home to ducks, herons, egrets, and swans.

The Wisconsin Department of Natural Resources identifies State Natural Areas, which are defined as tracts of land in a natural or near natural state and which are managed to serve several purposes including scientific research, teaching of resource management, and preservation of rare native plants and ecological communities. Fourmile Island Rookery is the only State Natural Area in Kekoskee.

Fourmile Island Rookery

Located within the Horicon Marsh Wildlife Area, the Fourmile Island Rookery, consist of 15 acres and contains one of the largest heron and egret rookeries in the Midwest. The narrow island is forested with large oaks, basswood, elm, aspen, and cottonwood--trees used for nests by great blue herons, black-crowned night herons, and great egrets.

Horicon National Wildlife Refuge and Horicon Marsh Wildlife Area

These two protected wildlife areas, collectively known as the Horicon Marsh, make up the largest freshwater cattail marsh in the United States. This marsh has been designated as "A Wetland of International Importance" by the Ramsar Convention and accepted as a "Globally Important Bird Area" by the American Bird Conservancy. The Green Bay Lobe of the Wisconsin glacier formed the Horicon Marsh during the last Ice Age more than 10,000 years ago. The glacier left behind a shallow, 50-square mile lake as it receded. Over time, this lake and the deposit of silt and organic materials reduced the depth of the basin. Due to its geological significance, Horicon Marsh has been included as a unit of the Ice Age National Scenic Reserve in cooperation with the National Park Service. The northern two-thirds of the marsh is under the jurisdiction of the U.S. Fish and Wildlife Service and the southern one-third is under the jurisdiction of the Wisconsin Department of Natural Resources.

After many years of damming, ditching, and draining in an attempt to alter the marsh, the Wisconsin Legislature passed the Horicon Marsh Wildlife Refuge Bill in 1927 for the restoration of the Marsh including land acquisition and dam construction to re-flood this drained wetland. Today, the Horicon Marsh covers about 32,000 acres, making it the largest freshwater marsh in the upper Midwest.

5.13 Wisconsin's Land Legacy Program

The WDNR has conducted a study of places that may be important in meeting the state's conservation and recreation needs over the next 50 years. The following areas or features have been identified in Dodge County, two (2) of which have portions located in the Village:

Glacial Habitat Restoration Area
Horicon Marsh
Niagara Escarpment

5.14 Historic Places

State and National Register of Historic Places
The National Register of Historic Places recognizes properties of local, state, and national significance. Properties are listed in the National Register because of their associations with significant persons or events because they contain important information about our history or prehistory, or because of their architectural or engineering significance. The National Register also lists important groupings of properties as historic districts. In addition, the National Park Service highlights properties that have significance to the nation as a whole by conferring on them the status of National Historic Landmark.

The Wisconsin State Register of Historic Places parallels the National Register. However, it is designed to enable state-level historic preservation protection and benefits. Most of the properties in Wisconsin listed in the National Register are also listed in the State Register.

Located within the Village of Kekoskee is the Kekoskee Archeological District, reference number 94000985. This is a Native American burial ground. The exact location of this district is restricted.

Historic Resources
There are no historic sites in the Village that are listed on the National Register of Historic Places. However, according to the Architecture & History Inventory (AHI) maintained by the State Historical Society, there are 16 structures with historical significance in the Village. It should be noted that these structures could hold unique opportunities for the Village due to their historic significance. The structures are as follows:

(1) Stone House – Italianate, located on the south side of Elm Road .4 mile west of Dyke Road;

(2) Stone gabled outbuildings located on the south side of Craig Road .4 mile east of CTH Y;

(3) Metal pony truss bridge located on Dike Road over the east fork of the Rock River;

(4) Metal overhead truss bridge located on Dorham Road over the east branch of the Rock River;

(5) Stone House – Italianate, located on the north side of Bay View Road .5 mile west of CTH TW;

(6) Cream Brick Cross Gabled House located on the west side of CTH TW .4 mile south of Strange Road;

(7) Cream Brick Italianate house located on the north side of Wool Road .4 mile east of CTH TW;

(8) Brick Colonial Revival house located on the north side of Zion Church Road 1 mile east of STH 67;

(9) Wooden Utilitarian Building located on the north side of Zions Church Road 1 mile east of STH 67;

(10) Wooden small animal building located on the north side of Zions Church Road 1 mile east STH 67;

(11) Utilitarian outbuildings located on the north side of Zions Church Road 1 mile east of STH 67;

(12) Fieldstone Side-Gabled house located on the north side of Rausch's Hill Road .4 mile east of CTH TW;

(13) Stone House located on the east side of CTH V .7 mile south of Petit Road; and a

(14) Drop Siding Bath House located in the Horicon Wildlife Area.

(15) Clark Acres Side-Gabled barn located on Bay View Rd; and a

(16) Cross Gabled house located west side of CTH TW .5 mile north of Decona Rd

5.15 Cultural Resources

Historical Overview

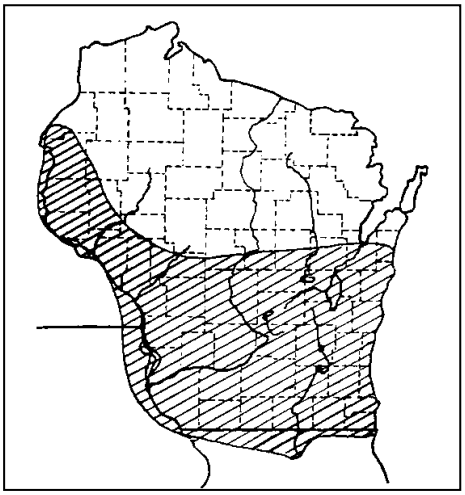
Based on archaeological evidence so far discovered, the first inhabitants to what is now Wisconsin arrived over 10,000 years ago when the continental glaciers retreated northward.

Unfortunately, much of the evidence from the pre-history has been lost with increased urbanization and land alteration. Isolated prehistoric sites such as temporary or permanent settlements or extractive sites have been identified throughout the state. As noted in the above exhibit, people during the Woodland Period often built burial mounds. Although single mounds have been found, most occurred in groups, in some cases 30 or more in one (1) location. The Village is located in an area of the state where Indian mounds are most common (Exhibit 5-2). Numerous burial mounds are found in and around the area.

Archaeological Resources

According to records maintained by the State Historical Society, there are a significant number of archaeological sites that have been identified and catalogued in the Village of Kekoskee.

Exhibit 5-2. Distribution of Paleo-Indian Burial Mounds in Wisconsin



The entire twelve-mile eastern border of the Horicon Marsh area contains many groups of prehistoric earthworks along the ancient and formerly heavily traveled trail. Approximately 300 mounds of all kinds have been surveyed and recorded along this route and a large number remain unrecorded. In virtually all of the various locations, the former sites of historic villages and composites yield evidence of the prehistoric occupation of the area by several different cultures. The evidence along the Horicon Marsh do not substantiate whom the original builders of the effigy mounds located there may have been, but all indications are that they supersede the occupancy of the area by the Winnebago Indians. Many of the major earthworks found in the Village of Kekoskee have been recorded. A group of five Indian rock art paintings, most likely the first to be found in Wisconsin, were discovered in the extreme northeast corner of the NE quarter of Section 33, T12N, R16E, in the Village of Kekoskee. Also, within Dodge County successive Indian tribes inhabited the area, leaving behind their artifacts in testimony of their wanderings. The Menominee and Winnebago and perhaps the Potawatomi left evidence of their travels in the form of discernible trails.

Burial Sites

In 1987, the state passed the Wisconsin Burial Sites Preservation law (s.157.70 Wis. Statutes) to protect historic and prehistoric burial sites from all types of human disturbance. The law gives the State Historical Society of Wisconsin the responsibility for inventorying and cataloguing all prehistoric and historic burial sites in Wisconsin. The law is to assure that all human burials in this state are granted equal treatment without reference to ethnic origins, religious affiliations, or age of the burial site. Once a burial site is registered, it is exempt from property taxes. Aside from exhumations authorized by coroners or by immediate family members, no one may disturb a human burial site without authorization from the Director of the State Historical Society of Wisconsin. The law also authorizes penalties for unauthorized disturbances or the failure to report disturbances.

According to the State Historical Society there are numerous effigy and mound burial sites in the Kekoskee area. Those that have been recorded, to date, include:

(1) Four effigy and one oval mound in the dense woods on the hill to the west of STH 28, which follows a diagonal course SW to NE, through the SW quarter of Section 28;

(2) In the SW quarter of Section 28 there is a large village site and workshop area that extends into the NE quarter of the NW quarter of Section 33. In this area of Section 33 there is also a well-rounded and gracefully made panther effigy in an excellent state of preservation as well as a large spring, surrounded by evidence of extensive campsites;

(3) Six effigy mounds in the NE quarter of the SW quarter of Section 28;

(4) Three effigy mounds in the NW quarter of the NE quarter of Section 28;

(5) Two effigy and two oblong mounds in the E half of Section 13;

(6) Group of five conical and other mounds on a ridge in the SW quarter of the NW quarter of Section 14;

(7) Group of conical mounds in the NE quarter of Section 15;

(8) Group of three effigy mounds in the SE quarter of the NW quarter of Section 26;

(9) Group of four effigy mounds near the center of the NE quarter of Section 27;

(10) Group of nine effigy and other mounds on the point of the ridge in the NW quarter of Section 27.

(11) Burial mound in Section 33; and

(12) Burial mounds and garden beds in Section 26, T12N, R16E.

In the Village of Kekoskee, Kekoskee Archeological District, there is also a pre-historic (0650-1300) domestic funerary, or village grave and burial site, identified on the Wisconsin National Register.

Cultural Facilities

Cultural amenities enhance the quality of life, encourage residential development, and attract tourism. Such amenities are limited in Dodge County since its communities are small and lack the support populations needed for diverse cultural opportunities. The primary cultural facilities in Dodge County consist of libraries, museums, and historical markers. There are 12 libraries in the county, 13 museums, and four official historical markers. The libraries are all municipally owned. Four of the museums are privately operated.

As shorter trips and historical attractions continue to become more popular, local museums will likely be in greater demand as recreational destinations. A present problem with most local museums is the very limited amount of time they are open to the public due to the number of available volunteers and low or non-existent staffing budgets. As demand increases, the museums should be made more convenient and accessible as a local recreation facility.

5.16 Community Design

Community design as a cultural resource helps explain the origins and history of how a given community looks, feels, and functions in the present day. Components of the origin of community design include historic settlement patterns, resource use (like mining, farming, and forestry) in rural areas, the industries and businesses that influenced urban areas, transportation features and traffic flow patterns, natural features like rivers, lakes, and wetlands, and the heritage and values of the people that lived in a community in the past and that live there today. These factors might be expressed through street layout, building architecture, landscaping, preservation of natural features, development density, and other components of development design.

The design of a community as seen today might also be influenced by community decisions including the use of zoning and subdivision controls, the establishment of parks and other community facilities, the use of historic preservation, and in some cases, the use of land use planning. Each community within Dodge County has its own unique community design which, when all taken into consideration, make up the community design of Dodge County.

5.17 Agricultural, Natural, and Cultural Resources Goals and Objectives

Wisconsin Statutes 66.1001 requires a statement of overall goals and objectives to guide the future development and redevelopment of the county over a 20-year planning period. The following are the goals and objectives developed by Village of Kekoskee with regard to the Agricultural, Natural, and Cultural Resources element.

Goals:

Goal 1: Protect and preserve the Village's best agricultural farmland.

Goal 2: Strengthen the human and cultural resources of the area.

Goal 3: Protect, preserve and enhance the Village's natural, historical and cultural resources.

Goal 4: Recognize the value of the community's groundwater.

Objectives:

1. Respect and protect the environmental corridors in and around Kekoskee.
2. Help to preserve the agricultural areas not in the Village's growth corridors.
3. Acknowledge the "Benefits of Nature" such as wetlands, conservancy areas, trails and scenic views.
4. Protect the Horicon Marsh as a valuable natural resource and tourist attraction.
5. Control development in areas that possess valuable natural resource characteristics and wildlife habitats.
6. Support the Kekoskee Williamstown Historical Society to preserve structures and artifacts that reflect the Village's past.
7. Seek grants from the Wisconsin Department of Natural Resources, other state and federal agencies, and investigate new revenue sources as needed.
8. Protect existing archaeological sites.
9. Work with local historical societies to preserve the Village's heritage.
10. Promote and support the existing organizations in the Village.

11. Limit or tightly control any use of hazardous material in or near the Village.

12. Monitor research on ground water for chemical contamination from agriculture practices or other uses.

13. Keep close review of the landfill relative to area water quality.

14. Designate areas to be protected for agricultural use (Farmland Preservation).

15. Promote the health and stability of the agricultural economy in Kekoskee.

16. Direct necessary rural non-farm uses to those areas least suitable for cultivation.

17. Promote the use of conservation practices, which can improve land, air and water quality.

18. Prevent, wherever possible, the development of potential agricultural and non- agricultural land use conflicts.

19. Relate residential development to existing employment, community facilities and transportation systems in a safe, convenient fashion.

20. Encourage a range of housing densities so that a choice of housing is available.

21. Recognize the value of existing housing and established neighborhoods.

22. Prevent non-farm residential development in areas planned for agricultural or open space use.

23. Prevent isolated non-farm related commercial and industrial uses in areas planned for agricultural and/or open space uses.

24. Encourage the clustering of commercial uses in planned shopping centers or other compact commercial areas in order to maximize consumer safety and flow and enhance economic viability.

25. Locate industrial areas so they are readily accessible from residential areas and are visually and functionally compatible with them.

26. Ensure that the location and development of public, institutional and utility land uses enhance the quality of life in Kekoskee and be consistent with other goals and policies.

27. Encourage development where potential air, land and water pollution hazards are the least.

28. Restrict development in those areas where flood hazards exist; where other physical limitations make development undesirable and where wetlands would be destroyed.

29. Identify areas where animal confinement facilities can be operated without conflicting with other forms of development.

30. Provide areas in the rural parts of Village that are suitable for limited residential development and are designed to minimize adverse impacts on agriculture and maintain the rural character.

31. Focus new growth in areas that will not adversely impact farmland preservation areas of the Village.

32. Maintain the integrity of agricultural districts allowing for accepted agricultural practices.

33. Maintain agricultural preservation policies for land within urban service areas until such time as sanitary sewer service is available and the land can be rezoned and developed on public sewers.

5.18 Agricultural, Natural, and Cultural Resources Recommendations

Policies and recommendations build on goals and objectives by providing more focused responses and actions to the goals and objectives. Policies and recommendations become the tools that the Village should use to aid in making decisions. Policies that direct action using the words "will" or "shall" are advised to be mandatory and regulatory aspects of the implementation of the comprehensive plan. In contrast, those policies that direct action using the word "should" are advisory and intended to serve as a guide.

Recommendations are specific actions or projects that the county should be prepared to complete within the 20-year planning period. The completion of these actions and projects are consistent with the policies, and therefore will help fulfill the comprehensive plan goals and objectives.

Policies and Recommendations:

1. Preserve scenic views.

2. Prohibit premature non-agriculture growth.

3. Apply for tourism grants and other funding sources to acquire sites for historical significance and recreation functions.

4. The Farmland Preservation Program is intended to preserve farmland and should be respected if a landowner has entered it voluntarily.

5. Minimize the severance of agricultural parcels for highway improvement projects.

6. Discourage land divisions in farmland preservation areas which are not in accordance with the applicable residential density standard provisions.

7. Prevent development on archaeological sites containing burials and require deed restrictions on other property containing mapped archaeological sites to protect the archaeological significance of the site when development of such a site is approved.

8. General farming, harvesting of wild crops and sustained yield forestry should be permitted in privately owned open space areas.

9. The Village should direct growth away from environmentally sensitive areas, such as environmental corridors, wetlands, and floodplains.

10. The Village shall control the impact of new residential development in agricultural areas by enforcing density standards within the agricultural zoning districts.

11. The Village will continue to encourage agricultural zoning in targeted agricultural preservation areas in accordance with the state farmland preservation program and Dodge County Farmland Preservation Plan.

12. New non-farm residential development should be discouraged on large tracts of productive agricultural land in areas of existing agricultural operations.

13. Protect environmental corridors, marshlands, ledge formations and environmentally sensitive land, including wetlands, when acquiring land, when considering rezoning requests, when extending utilities and when doing new developments.

14. Agriculture lands in the Village need to be protected to the extent feasible utilizing the Village's zoning powers and boundary agreements.

15. Require deed restrictions on property containing mapped archaeological sites if development is permitted on the site.

16. The Village should apply for WDNR grants that enhance the Village's natural resources and trail systems.

17. Protect the most significant sites by zoning controls and building permits.

18. Encourage cooperation between 4-H, farm groups and civic groups.

19. The Village needs to be vigilant to the dangers of hazardous waste materials.

20. Work with the Department of Natural Resources and other state and federal agencies to take immediate steps to clean up sites as they are discovered.

21. Continue to enforce a density standard within the agricultural zoning districts in order to control the development of new non-farm residences.

22. Use public acquisition, dedication, or conservation easements in areas of critical environmental importance.

23. Continue to protect designated agriculture lands from development. Utilize the Comprehensive Plan, Dodge County Farmland Preservation Plan, Zoning Ordinance, Land Division Ordinance and permitting process to protect the lands planned for agriculture from development.

24. Implement the 2015 Dodge County Farmland Preservation Plan. This includes:

    - Continue to designate agriculture lands in the zoning ordinance to protect these areas for development.

    - Effectively eliminate any future expansion of extraction mining.

    - Protect natural resources including water quality, wetlands, the Ledge and Horicon Marsh through development and construction restrictions.

    - Continue to use land use controls such as zoning and permitting regulations.

    - Examine both long and short-term effects of land use policies.

    - Adopt the revised Comprehensive Plan, subdivision regulations, building codes, erosion controls, driveway placement and other codes in the future as necessary.

    - Use transitional areas to encourage development near urban areas and existing pockets of development.

    - Direct residential development to all those areas designated on the land use plan.

    - Promote industrial development adjacent to the railroad, south of Mayville to take advantage of transportation links.

    - Encourage coordination with all school districts, municipalities and county government in new developments.

    - Limit development from flood hazard areas, wetlands, ledge areas, steep slopes and soils unsuitable for development.

    - Recognize the location and significance of cultural historic and archaeological resources when designation and implementing land use plans and making zoning changes.

    - Locate residential, commercial land, industrial development to those areas adjacent to existing development in conformance with the land use plan.

5.19 Agricultural, Natural and Cultural Resources Programs

The following general programs are currently available to the Village to assist with implementation of the various goals, objectives, policies, and recommendations of the Agricultural, Natural, and Cultural Resources Element of the Village of Kekoskee Comprehensive Plan.

Dodge County Land and Water Conservation Department
The mission of the department is to promote and assist in wise land use decisions that preserve, protect and enhance the natural resources of Dodge County. The department is responsible for providing technical, planning, and financial assistance to landowners of Dodge County regarding soil and water conservation practices. The department implements state and local conservation

programs such as the Farmland Preservation Program, Conservation Reserve Enhancement Program (CREP), the Land and Water Resource Management Program, Nutrient Management Planning, Wisconsin Non-Point Runoff Rule Implementation, Wildlife Crop Damage Program, and the Dodge County Manure Storage Ordinance. The department also assists in the implementation of the Shoreland/Wetland/Floodplain Ordinance. It is the responsibility of the Land Conservation Department and Committee to ensure that the county's natural resources are conserved.

Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) Programs

Wisconsin Farmland Preservation Program

The purpose of the farmland preservation program is to help preserve farmland through local planning and zoning, promote soil and water conservation, and provides tax credits to participating farmers. Farmers qualify if their land is zoned or if they sign an agreement to use their land exclusively for agricultural purposes. The Village does participate in the Farmland Preservation Program. More information is available at: https://datcp.wi.gov/Pages/Programs_Services/FarmlandPreservation.aspx.

Agricultural Enterprise Area (AEA) Program

AEA's are part of Wisconsin's Working Lands Initiative. An AEA is an area where the local community has prioritized preservation of farmland and agricultural development. Once an area is officially designated as an AEA, eligible farmers owning land within the area may enter into a farmland preservation agreement with the state. This enables the landowners to receive tax credits in exchange for agreeing to keep their farm in agricultural use for at least 15 years. To date, the Village of Kekoskee has not established an Agriculture Enterprise Area. More information is available at: https://datcp.wi.gov/Pages/Programs_Services/AgriculturalEnterpriseAreas.aspx

Wisconsin Department of Natural Resources (WDNR) Programs

Wisconsin Forest Landowner Grant Program

The Wisconsin Forest Landowner Grant Program, administered by the Wisconsin Department of Natural Resources, is designed to assist private landowners in protecting and enhancing their forested lands, prairies, and waters. Landowners are required to contact their WDNR forester for guidance prior to completing the application and written approval must be obtained before beginning a practice. More information is available at: https://dnr.wisconsin.gov/aid/ForestLandowner.html

Managed Forest Law

The Managed Forest Law, administered by the Wisconsin Department of Natural Resources, is a landowner incentive program designed to encourage sustainable forestry on private woodlands in Wisconsin. The law, through a written forest management plan, couples landowner objectives and timber harvesting, wildlife management, water quality and recreation to maintain a healthy and productive forest. Numerous changes were made to this law by the 2015 Wisconsin Act 358. More information is available at: https://dnr.wisconsin.gov/topic/forestlandowners/mfl

Surface Water Grants

Surface Water Grants include Lake Management Planning, Lake Protection & Classification, River Protection, River Planning and Aquatic Invasive Species Control are available from the WDNR. More information is available at: https://dnr.wisconsin.gov/aid/SurfaceWater.html

Urban Non-Point Source & Stormwater Management Grant Program
Funds are available to improve water quality by limiting or ending sources of urban nonpoint source (run-off) water pollution by providing financial and technical assistance to landowners, land operators, municipalities, and other governmental units. More information is available at: https://dnr.wisconsin.gov/aid/UrbanNonpoint.html

Knowles-Nelson Stewardship Local Assistance Grant Programs
The Knowles-Nelson State Stewardship Fund is a land acquisition program for the State of Wisconsin. Four Stewardship grant programs are available: Acquisition and Development of Local Parks (ADLP), Urban Green Space (UGS) grants, Urban Rivers (UR) grants, and Acquisition of Development Rights (ADR). The program offers a 50 percent grant match to create parks, hiking trails, hunting grounds, and other facilities. The funds can also be utilized for facilities improvements such as road construction and capital acquisition projects (picnic equipment, playgrounds, etc.). More information is available at: https://dnr.wisconsin.gov/topic/Stewardship

County Conservation Aids
Funds are available to carry out program of fish or wildlife management projects as per s.23.09 (12), Wis. Stats. and NR 50, Wis. Adm. Code. Projects related to providing improved fish or wildlife habitat or projects related to hunter/angler facilities are eligible. Projects which enhance fish and wildlife habitat, or fishing and hunting facilities have priority. More information is available at: https://dnr.wisconsin.gov/aid/CountyConservation.html

U.S. Department of Agriculture (USDA) Programs

Environmental Quality Incentives Program (EQIP)
The purpose of EQIP is to provide technical and financial help to agricultural producers and non-industrial forest managers to address natural resource concerns and deliver environmental benefits such as improved water and air quality, conserved ground and surface water, increased soil health and reduced soil erosion and sedimentation, improved or created wildlife habitat, and mitigation against drought and increasing weather volatility. More information is available at: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/

Wetlands Reserve Program (WRP)
The purpose of WRP is to restore wetlands previously altered for agricultural use. The main goal is wetland restoration and wildlife habitat establishment. More information is available at: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/null/?cid=nrcs143_008419

Cultural Resource Programs

Wisconsin Historical Society
The Wisconsin Historical Society (WHS) State Historic Preservation Office (SHPO), in partnership with communities, organizations and individuals, works to identify, interpret and preserve historic places for the benefit of present and future generations. Resources and programs are available to local units of government and non-profit organizations. More information is available at: https://www.wisconsinhistory.org

Wisconsin Historic Preservation Fund Subgrants

The Wisconsin Historic Preservation Fund Sub-grants provide funds for surveys to identify and evaluate historical, architectural and archaeological resources, nominating properties to the National Register of Historic Places, and for carrying out a program of historic preservation planning and education.

Historic Homes Tax Credit Program

The Historic Homes Tax Credit Program offers a 25 percent Wisconsin income tax credit for homeowners who rehabilitate historic personal residences. The historic homeowners' tax credit is a dollar-for-dollar reduction in what you owe in Wisconsin income taxes. Applications are through the Wisconsin Historical Society and projects must meet the Secretary of the Interior Standards for Rehabilitation.

Wisconsin Historic Preservation Tax Credit Program

This program returns 20 percent of the cost of rehabilitating historic buildings to owners as a Wisconsin income tax credit. The historic homeowners' tax credit is a dollar-for-dollar reduction in what you owe in Wisconsin income taxes. Applications are through the Wisconsin Historical Society and projects must meet the Secretary of the Interior Standards for Rehabilitation.

Federal Historic Preservation Tax Credit

This program returns 20 percent of the cost of rehabilitating historic buildings to owners as a direct reduction in the federal income taxes. To qualify, buildings must be income producing historic buildings, must be listed on the National Register of Historic Places, or contribute to the character of a National Register Historic District. The historic homeowners' tax credit is a dollar-for-dollar reduction in what you owe in Wisconsin income taxes. Applications are through the Wisconsin Historical Society and projects must meet the Secretary of the Interior Standards for Rehabilitation.

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