

Acknowledgements

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Tables and Maps

The tables used in this comprehensive plan are taken from the *Chippewa County Conditions and Trends* published in CD media format in August 2008 by the Chippewa County Planning and Zoning Department. For a copy of this CD or more information regarding tables and interpretations contact the Chippewa County Planning and Zoning Department.

The maps referenced in the Town of Howard Comprehensive Plan are taken from *The Chippewa County Resource and Land Use Atlas*, published in January 2009 in a DVD media format by the West Central Regional Plan Commission. This Atlas is a compilation of resource, land use, and development limitations maps for Chippewa County and each of its municipalities to assist in county and local planning efforts. However, these maps should only be considered a starting point. The source data is based on the best information available at WCWRPC, though site/parcel-specific variations in resource data can be expected and municipal boundaries may have changed, and some land use information is outdated. For more information on the maps contained in this Atlas and the WCWRPC geographic information system, please contact WCWRPC at 715-836-2918.

The maps are numerically referenced in the body of the comprehensive plan to the brief explanations offered below for each map. These explanations are taken from *The Chippewa County Resource and Land Use Atlas* but modified to apply specifically to the Town of Howard.

Map no. 1 Prime Farmland

Data source is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database.

Prime farmlands or agricultural lands shown on the map are areas where the soils and other land characteristics are likely to be highly suited for agricultural activity. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, range-land, forest land, or other land, but not urban built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

Map no. 2 Soil Capability Class

Data source is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database.

Soil capability classification is an alternative method of identifying prime farmland, though the two methods used for Map no. 1 and Map no. 2 often yields very similar maps. The value of these lands is associated with not only their soil class, but also with their size, present use, and any regulatory framework for their protection. Capability classes and subclasses show, in a general way, the suitability of soils for most kinds of field crops. The soils are classed according to their limitations when they are used for field crops, the risk of damage when they are used, and the way they respond to treatment. The grouping does not take into account major and generally expensive land-forming that would change slope, depth, or other characteristics of the soils; does not take into consideration possible but unlikely major reclamation projects; and does not apply to rice, cranberries, horticultural crops, or other crops that require special management. Capability classification is not a substitute for interpretations designed to show suitability and limitations-of groups of soils for rangeland, for forest trees, or for engineering purposes.

Map no. 3 General Soils

Data source is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database. The general soils maps identify the soil associations in areas of the town, providing a basic understanding of areas with some common characteristics.

Map no. 4 Sand and Gravel

Data source is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing and are used in many kinds of construction. The sand and gravel maps show those soils with a good or fair likelihood of being a potential sand or gravel source of suitable quantity for extraction. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes, the thickness of suitable material, and the content of rock fragments. The maps do not indicate the suitability of the material for specific uses or whether there are factors that prohibit or otherwise limit excavation of the material. Deposits that lie along and include the beds of intermittent navigable streams, as is the case with sand and gravel deposits located along portions of Elk and Hay Creek, would not be able to be mined. Also, the areas identified on the map as containing potential sand and gravel resources do not include areas that may contain sandstone material that involves more than a minimum of processing in order to make the material suitable for industrial or other uses.

Map no. 5 Water Resources

Data sources are the Wisconsin Department of Natural Resources and FEMA Flood Insurance Rate Maps. This map is a compilation of the surface water resources of the Town.

Map no. 6 Watersheds and Surface Waters

Data source is the Wisconsin Department of Natural Resources. A watershed is the area which drains runoff water to a stream and its tributaries. The three streams in Howard each comprise a small separate watershed each of which are part of a larger watershed that drains into another body of water. Elk Creek drains directly to the Chippewa River; Eighteen mile to the Red Cedar River, and the headwaters of both Big and Little Hay Creek drain to Duncan Creek and then to the Chippewa River. A watershed is smaller than river basins. For instance, west central Wisconsin falls within the Mississippi River major river basin and has three primary water management unit river basins (St. Croix, Lower Chippewa, and Black River), but the region has many more watersheds. Watersheds are used to manage and plan for water resources at the local level, including the Non-Point Source (NPS) Priority Watershed Program.

Map No. 7 Depth to Bedrock

Data source is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database. NRCS soils data identifies those areas with a depth to bedrock of five feet or less based on soil borings and observations during soil mapping. Excavations can be made in soft or

fractured bedrock with trenching machines, backhoes, etc. Hard bedrock may require blasting or specialized equipment.

Map no. 8 Depth to Groundwater

Data source is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database. Depth to groundwater shows the highest level of a saturated zone in the soil in most years; this is also called a seasonal high water table. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone.

The NRCS soil data typically offers a range for the depth to groundwater for each soil unit. The WCWRPC depth to groundwater maps groups the soil units into two ranges—six feet or less and a range of six feet or more. Six feet was a natural break for many of the NRCS soil units, and is also just less than the seven feet used by NRCS for its analysis of limitations for single-family residential with basements.

Map no. 9 Wetlands

Data source is Wisconsin Department of Natural Resources Wisconsin Wetland Inventory. For west central Wisconsin, wetland data was last updated for the Town of Howard was in 1996. Generally, the wetlands shown are two acres or larger. The actual Wisconsin Wetland Inventory shows smaller wetlands using point symbols, as well as classifying the wetlands by vegetative type, hydrology, etc.

Map No. 10 Elevations

Data source is the U.S. Geological Survey (USGS) Geographic Data Download website: www.usgs.gov. The USGS created a digital elevation model based on known elevation points which extrapolated and assigns an elevation to small blocks (raster).

Map no. 11 Land Cover.

Data source is the Wisconsin Initiative for Statewide Cooperation on Landscape Analysis and Data (or WISCLAND). Information in the WISCLAND land cover is derived primarily from 1992 satellite imagery and made available in 2000. WISCLAND data identifies predominant land cover for a minimum five-acre raster area. For information on the WISCLAND program can be found at: <http://www.dnr.state.wi.us/maps/gis/datalandcover.html>.

Map No. 12 Forested areas

Data source is the Wisconsin Initiative for Statewide Cooperation on Landscape Analysis and Data (or WISCLAND). Information in the WISCLAND land cover is derived primarily from 1992 satellite imagery and made available in 2000. WISCLAND data identifies predominant land cover for a minimum five-acre raster area. For information on the WISCLAND program can be found at: <http://www.dnr.state.wi.us/maps/gis/datalandcover.html>. The forest maps

identify those five-acre areas which are predominantly forested, without distinguishing the forest type. Forest is defined as an upland area of land covered with woody perennial plants and trees reaching a mature height of at least six feet tall with a definite crown.

Map no. 13 Floodplains

Data source for the floodplain information is the FEMA FIRM maps as digitized by WCWRPC. Data source for the frequently flooded soils information is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database.

The floodplains shown on the maps are the 100-year floodplains as identified on FEMA Flood Insurance Rate Maps (FIRMs). The FIRMs are used to identify properties for which flood insurance is required as a loan condition under the National Flood Insurance Program (NFIP). However, the FIRMs have limited reference points, so site-specific analysis is often required to determine proximity to the floodplain. The accuracy of the FIRMs has often been questioned by local officials. And given that the floodplains identified in the map atlas were digitized by WCWRPC, our maps should only be used for general planning purposes. Currently, the FIRM maps are being updated statewide and will be made available in digital form, which should result in more accurate and increase usability.

The NRCS defined frequently flooded soils as soils in which flooding, ponding, or saturation is likely to occur often under usual weather conditions. "Often" is further defined as more than a 50 percent chance in any given year or more than 50 times in 100 years.

Map no. 14 Steep Slopes

Data source is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database. NRCS data assigns a slope range to each soil unit (or phase). Steep slopes are considered by the Wisconsin Department of Natural Resources to be any area of 12 percent or greater slope and consisting of any soil type. Bare ground on slopes 12 percent or greater are considered vulnerable to soil erosion, depending on the characteristics of the soil type and site. Soil erosion on slopes 12 percent to 20 percent is often manageable with good practices. The WisDNR discourages development of slopes greater than 20 percent without more intensive or engineered best management practices and erosion control planning (e.g., retaining walls, storm water management systems, terracing).

Map no. 15 Septic Systems

Data source is the Chippewa County Soil Survey by the U.S. Natural Resource Conservation Service; digital G.I.S. data is from the NRCS Soil Survey Geographic (SSURGO) database. This map shows soils which have limitations for septic tank absorption fields. Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between 24 and 60 inches is

evaluated. The rating is based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Factors considered include permeability, depth to wet soils, ponding, stones/boulders, depth to bedrock, excessive slope, and flooding. Soils underlain by loose sand and gravel or fractured bedrock at a depth of less than four feet below the distribution lines may not allow adequate filtration of effluent and poses groundwater contamination concerns. Mound systems, holding systems, pretreatment, and municipal wastewater treatment are a few ways to mitigate or overcome some limitations.

The limitations are considered slight if soil properties and site features are generally favorable for septic tank absorption fields and limitations are minor and easily overcome. Moderate limitations exist if soil properties or site conditions are not favorable for septic systems and special planning, design, or maintenance is needed to overcome or minimize the limitations. Severe limitations indicate that there are soil properties or site features so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.