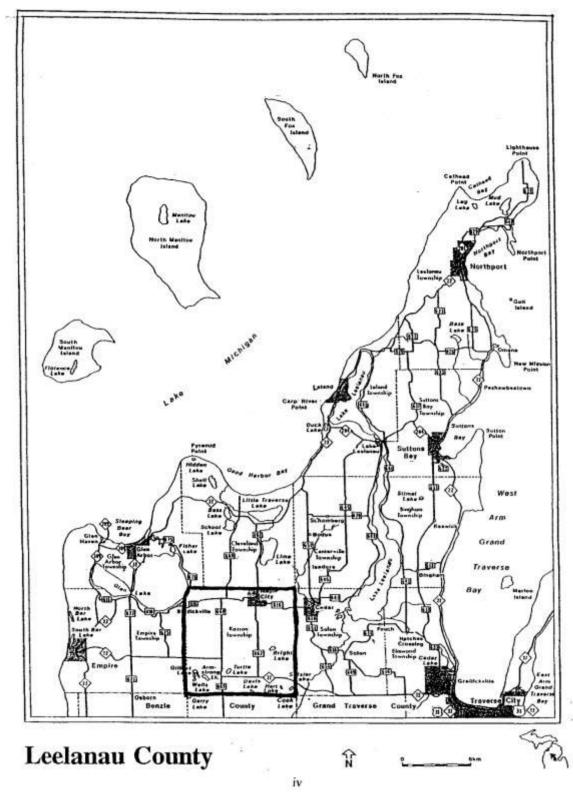
1	KASSON TOWNSHIP
2	MASTER PLAN
3	2014

1	KASSON TOWNSHIP		
2	LEELANAU COUNTY, MICHIGAN		
3			
4	PLANNING COMMIS	SSION	
5	Chairman		Tad Carter
6	Vice Chairman		Vic Lane
7	Secretary		Bob Johnson
8 9 10 11	Commissioners		Jim Anderson Dana Boomer Roger Noonan Gerry Roush
12 13	Recording Secretary		Chuck Schaeffer
14	TOWNSHIP BOARD		
15	Supervisor		Fred Lanham
16	Clerk		Traci Cruz
17	Treasurer		Beth Noonan
18 19	Trustees		Roger Noonan Greg Julian
20	PROFESSIONAL STA	FF	
21	Zoning Administrator		Mike Lanham
22			

1	o perfortuna o per virtu
2	Nicolo Machavellii
3	
4	
5	
6	The history of man is a graveyard of great cultures
7	that came to catastrophic ends because of their
8	incapacity for planned, rational, voluntary reaction to
9	challenge.
10	Eric Fromm
11	
12	
13	
14	Root hog or die.
15	Kasson Freeman, Jr.
16	

1	KASSON TOWNSHIP						
2	MISSION STATEMENT						
3	Based upon its survey of community opinion and its analysis of Township resources and opportunities,						
4	the Kasson Township Planning Commission shall endeavor to update the Master Plan to						
5	comprehensively address the community's needs. The success of the Plan shall be measured by its						
6	ability to retain the good character and qualities of the community while encouraging growth that						
7	benefits all its residents.						
8	Township Planning Commission; purpose of plans.						
9							
10	(2) The general purpose of a master plan is to guide and accomplish, in the planning jurisdiction and its						
11	environs, development that satisfies all of the following criteria:						
12	a) Is coordinated, adjusted, harmonious, efficient, and economical.						
13	b) Considers the character of the planning jurisdiction and its suitability for particular uses, judged						
14	in terms of such factors as trends in land and population development						
15	c) Will, in accordance with present and future needs, best promote public health, safety, morals,						
16	order, convenience, prosperity, and general welfare						
17	d) Includes, among other things, promotion of or adequate provision for 1 or more of the						
18	following:						
19	(i) A system of transportation to lessen congestion on streets and provide for safe and						
20	efficient movement of people and goods by motor vehicles, bicycles, pedestrians, and						
21	other legal users.						
22 23	(ii) Safety from fire and other dangers.(iii) Light and air.						
23 24	(iv) Healthful and convenient distribution of population.						
25	(v) Good civic design and arrangement and wise and efficient expenditure of public funds.						
26	(v) Public utilities such as sewage disposal and water supply and other public						
27	improvements.						
28	(vii) Recreation.						
29	(viii) The use of resources in accordance with their character and adaptability.						
30	Michigan Planning Enabling Act – Act 33 of 2008 - Article I, Section 7, Paragraph (2)						



2 Figure 1 – Kasson Township Location Map

1	TABLE OF CONTENTS	
2	KASSON TOWNSHIP LEELANAU COUNTY, MICHIGAN	i
3	PLANNING COMMISSION	i
4	TOWNSHIP BOARD	i
5	PROFESSIONAL STAFF	i
6	KASSON TOWNSHIP MISSION STATEMENT	iii
7	TABLE OF CONTENTS	v
8	TABLE OF MAPS	vi
9	INTRODUCTION	1
.0	THE PROCESS	3
.1	COMMUNITY SURVEY ANALYSIS	4
2	KASSON TOWNSHIP REFERENCE SURVEY DEFINES	4
.3	ANALYSIS & SUMMARY OF SURVEY RESULTS	5
.4	THE STATE OF THE LAND	6
.5	THE BALANCE - Natural Areas, Agricultural Lands, & Open Space	7
.6	THE GRAVEL DISTRICT	8
7	FUTURE LAND USES	9
.8	GOALS AND POLICIES	
.9	NATURAL RESOURCES	
0	THE AREA	
1	Geography	13
2	Geologic Formations	15
3	Climate	15
4	ECOLOGICAL FEATURES	15
5	Flora and Fauna	17
	KT MASTER PLAN 2014 – MARKUP DRAFT	Page v

1	LONG TERM OBJECTIVES	
2	POLICIES & ACTIONS	20
3	RESIDENTIAL LAND USE & HOUSING POLICY	22
4	LONG TERM OBJECTIVES	25
5	POLICIES & ACTIONS	26
6	ECONOMIC DEVELOPMENT	27
7	LONG TERM OBJECTIVES	
8	POLICIES AND ACTIONS	
9	COMMERCIAL & INDUSTRIAL LAND USE	32
10	LONG TERM OBJECTIVES	
11	POLICIES & ACTIONS	
12	TRANSPORATION	35
13	LONG TERM OBJECTIVES	
14	POLICIES & ACTIONS	
15	UTILITIES & PUBLIC SERVICES	40
16	PUBLIC FACILITIES	42
17	LONG TERM OBJECTIVES	44
18	POLICIES & ACTIONS	45
19		
20		
20		
21	TABLE OF MAPS	
22	Figure 1 – Kasson Township Location Map	
23	Figure 2 - Existing Land Use Map	
24	Figure 3- Future Land Use Map	

1	Figure 4 – Delineation of Watersheds in Kasson Township	12
2	Figure 5 - Kasson Township Topography	14
3	Figure 6 – Soil Types Found in Kasson Township	16
4	Figure 7 – Parcels with Residences	23
5	Figure 8 – Kasson Township Local Road Network	36
6	Figure 9 – Kasson Township Average Daily Traffic Volumes	37
7		

KT MASTER PLAN 2014 – MARKUP DRAFT

Page vii

INTRODUCTION

- 2 Kasson Township is located in south central Leelanau County. Traverse City lies about 15 miles to the
- 3 east on Grand Traverse Bay and Empire is about 12 miles to the west on Lake Michigan.
- 4 The people, predominantly of German, Polish and British heritage, are middle class, home-owning, and
- 5 family oriented. Although not a young population (the median age is 45.4), it is ' younger than the
- 6 County as a whole (50.3). As indicated by the community survey, residents value the rural, undeveloped
- 7 nature of the Township above any of its other attributes.

- 8 Kasson Township has been endowed with a combination of natural beauty and rich resources which
- 9 have shaped, and continue to shape, its destiny. Almost 36 square miles j with 1639 residents in 2010,
- 10 the Township is covered predominantly by forests. There are a few orchards and some large areas of
- 11 crop and pasture land, especially through the center of the Township.
- 12 Settled largely because of the Homestead Act of 1862, farming, logging and other uses of the abundant
- 13 natural resources prevailed. The unincorporated village of Maple City, originally called Peg Town, was
- 14 founded in 1866 and is now the only densely settled area in the Township. The Village has a post office,
- 15 grocery store, gasoline station, restaurants and other services, including a Leelanau County Road
- 16 Commission garage. Oviatt, on the border with Almira Township and Benzie County, once another rural
- 17 village in the Township, is now only a crossroad.
- 18 Kasson Township does not have the abundant water resources that much of the rest of the County has,
- 19 only touching Glen Lake at the northwest corner of the Township, and having ; a few scattered small
- 20 lakes and streams. But the rolling, tree-covered countryside 1 conceals extensive gravel beds that
- 21 underlie a large portion of the western part of the Township. This rich resource has been used, and
- 22 continues to be used, in the building of j roads, houses, and other structures throughout the region.
- Additionally, the Township is the site of the regional landfill, a private operation covering 400 total
- acres, 133 of which could contain solid waste cells, with a potential to serve 10-13 counties.
- Township residents must expect outside pressures to come to bear on Kasson Township. These outsidepressures are:
- 27 1) A slight population increase in Leelanau County.
- Leelanau County grew from 21,119 in 2000, to 21,708 in 2010. This is an increase of 589
 persons, or 3%.
- 30 2) An ongoing trend toward more recreational activities and tourism. These trends are
 31 encouraged by the State, as well as by local entrepreneurs.
- 3) The area-wide pressures to utilize existing landfill and gravel sites rather than open new areas.

- 1
- 2 The latter pressures result from both landfills and gravel operations being classified as locally
- 3 undesirable land uses. Because Kasson Township is already home to these activities, there will be
- 4 escalating pressures from outside the area to increase the level of these operations as the area grows
- 5 and area-wide needs increase. It is critical that the Township develop standards and guidelines for
- 6 dealing with the potential changes in these two operations.
- 7 The most pressing danger from not addressing these issues aggressively is that, because of the
- 8 previously mentioned outside pressures, a superior legislative body may mandate a local course of
- 9 action if local leadership is not being exercised. The potential for mandated action must be treated as
- 10 very real There is a national recognition of the importance of the Great Lakes' watershed as a national
- 11 resource, and both landfill and gravel mining operations are capable of affecting this watershed.
- 12 These then are the challenges and the purpose of the plan ~ to address the combination of the splendid
- 13 natural beauty and the abundant usable natural resources of Kasson Township, and to address the
- 14 pressures and problems, as well as the pleasures, created by both.

THE PROCESS

- 2 For the past several years the Kasson Township Planning Commission has been grappling with land use
- 3 issues in the Township caused by the mixed blessings of its natural resources and by the increasing
- 4 demand for residential housing by newcomers to the area.
- 5 The Zoning Ordinance was revised in 1989 to address gravel extraction and other types of mining by
- 6 making these uses allowable only by special use permit In 1992 the Commission " performed a
- 7 community opinion survey to obtain residents' and other land owners' views on a number of planning
- 8 and development issues.
- 9 In the summer of 1994, the Commission hired Don Hamilton to aid it in completing a Master Plan. At
- 10 that time the Planning Commission began an intensive review of maps and data relevant to the
- 11 preparation of the Plan. The Commission reviewed demographic data and regional economic figures. It
- 12 studied the geography of the area by examining maps illustrating topography, forests, farmland and
- 13 soils. Important landmarks, views, and significant natural areas throughout the Township were
- 14 identified.

- 15 From the earlier studies, the community survey, and these later investigations, the Master
- 16 Plan was written. The Plan is shaped by the community's residents' needs and desires as indicated by
- 17 the survey and by their participation at meetings and hearings during the planning process and by the
- 18 Commission's desire and pertinacity to create the best plan possible for Kasson Township.
- 19 After appropriate input from both Leelanau County and the citizens of Kasson Township, the Master
- 20 Plan was approved in November, 1995 and amended in January, 1997 to include a commercial district
- 21 on East Kasson Road. After approval, the Planning Commission completed a total revision of the
- 22 Township Zoning Ordinance to support the goals of the Master Plan. The revised Zoning Ordinance was
- originally adopted in 1997, and revised with amendments through November 2001. With the availability
- of the Census 2000 data, the Kasson Township Master Plan was reviewed and revised in 2003 and
- adopted in December, 2004.
- 26 The plan was reviewed and updated during 2013-14 and was adopted by the Township Board on _____,
- 27 2014.
- 28

COMMUNITY SURVEY ANALYSIS

2 KASSON TOWNSHIP REFERENCE SURVEY DEFINES

RURAL CHARACTER	GROWTH
Country	More diversity
Open space	Lots of new houses — not traditional design, but
Farms/farmsteads, crops, old barns	fewer mobile homes
Manure/cows, animals (livestock)	People
Quiet	New roads -better, but maybe too many
Little traffic	More wealth
Forests and fields	Brings "city" problems -
Wildlife	Drugs -
Birds (sight and sound)	Lack of courtesy
Fresh air (smells without pollution -see manure	Reforestation
above)	Lawns instead of fields
Fall Colors	Home occupations
Landscapes in winter (white)	Noise
Fresh water (wells)	More taxpayers
Each season has its own character	Commuters – more traffic
Harvest time -working fields, hay making	
Sounds -frogs, birds, and flies	

3

1

1 ANALYSIS & SUMMARY OF SURVEY RESULTS

2

1992 Master Plan Public Opinion Survey Summary

A fair percentage of surveys mailed were returned (about 36%) and, in general, respondents seemed to believe that conditions in the Township were quite good, but also seemed to be concerned and anxious for the future of the Township. Although most indicated the pace of development "about right," they

- 6 were emphatic about wanting to control how this development was to occur in the future.
- 7 Strong majorities wanted most development to be rural residential and recreational. A majority favored
- 8 planned unit developments to encourage clustering of housing and preservation of open space. They
- 9 also were strongly in favor of providing any possible means to keep agriculture thriving, including low
- 10 assessments and other tax breaks. Although the largest group of respondents thought two
- 11 acres/dwelling unit about right for density in residential areas, when taken together, those wanting 5-
- 12 10 acres or greater per dwelling unit were a majority of the respondents.
- 13 Opposition to industrial uses (undefined) and mobile homes was very high; but a well designed mobile
- 14 home park was highly acceptable and in line with the respondents' desires to provide affordable
- 15 housing for residents, especially seniors. Other uses strongly opposed were landfills (including the
- 16 existing one), gravel pits, junkyards, and any activities destroying peace and quiet. By a small majority,
- 17 respondents were also not in favor of adding to parks (although they had indicated earlier recreation as
- 18 a desired development use), nor more resorts or motels.
- 19 Survey respondents generally were in favor of more commercial development that would be small,
- 20 retail, locally owned, and located on Traverse Highway (M-72) or in Maple City (not strip development
- and, again, not resorts or motels). They also wanted to see forests and view property preserved (in
- addition to farms), especially along M-72 and the county roads. Most also thought the roads were
- 23 generally in good shape, but that all needed improvement, including bicycle paths on the shoulders of
- any roads.
- 25 Finally, the responding residents of the Township voted emphatically for more controls on development
- to protect the community's character and natural resources. Respondents overwhelmingly voted for
- 27 stricter signage controls, ground water protection, plus mandatory septic tank testing to protect ground
- and surface waters, a site plan review ordinance, refinements to the existing gravel extraction
- 29 provisions of the ordinance to include regulations and standards not included in the original rendition,
- 30 and tougher code enforcement for junk. (But a line was drawn by respondents when regulations looked
- 31 to be encroaching on personal affairs, i.e., limiting the number of boats or docks one could have.)
- 32 Respondents were predominantly homeowners (90%), were employed full-time (63%) (although almost
- 33 30% were retired), a third of which commuted to Traverse City metro area to work. And although the
- largest group responding to the survey had lived in the Township for over 40 years, a majority (52%)
- 35 had lived here ten or fewer years.

THE STATE OF THE LAND

- 2 Farms and single family residences are the dominant land uses in Kasson Township. There are a few
- 3 scattered small businesses throughout the Township, but much commercial and cultural activity is
- 4 concentrated in Maple City near the northern border with Cleveland Township. The most intensive use,
- 5 is gravel mining and processing and concrete plants. The area school, a county road commission garage,
- 6 the regional landfill, a county park, a township park, as well as a fair amount of state forest lands, are
- 7 located within the Township. The forested landscape predominates, and with a population density of
- 8 only 56 people per square mile, the Township remains distinctly rural.
- 9 The following map depicts the status of the lands in Kasson Township. It is GIS generated by the
- 10 Leelanau County Planning and Community Development. Much of what we have already stated is
- 11 shown clearly on this map -the sparse human population, the linear development of residences, the
- 12 present widespread agricultural areas, and the predominant forest cover.

CLEVELAND TOWNSHIP KASSON TOWNSHIP EXISTING LAND USE LEGEND ad prop Federal County 000 Land Use ested/Reald Agriculture/Open Land ercial/Light indu Gravel Wetlands Lakes Planned Development A MAP FOR REFERENCE PURPOSES ONLY Data from analysis of 2000 serial photos Prepared by Loslanas County tto D Picture> GRAND TRAVERSE COUNTY

13 EXISTING LAND USE MAP

14

1

15 Figure 2 - Existing Land Use Map

1	THE BALANCE - Natural Areas, Agricultural Lands, & Open
2	Space

3 balance: [Latin: two scales] To bring into or keep in equal or satisfying proportions; harmony;
 4 equipoise.

5 This Plan is based upon the understanding that the beauty and quality of life in Kasson Township springs

6 from the bounty of its natural resources — the hills, forests, fields and lakes and the balanced

7 arrangement of these with its farms and urban areas. It is the harmonious blending of these elements,

8 without one dominating the others, that produces the satisfaction of community residents and that

9 draws tourists and residents alike to the Township. It is this balance that this Plan intends to maintain.

10 The bounty of the natural resources in Kasson Township is also found in the rich deposits of gravel

11 which underlie a good portion of the Township and in the conditions that have contributed to the

12 creation of a regional solid waste landfill located in the Township. This Plan recognizes the value of

13 these assets, but declares the community's interests, and proposes measures to address them, in

14 having the development of these assets performed in ways beneficial to all the Township's residents

and in no way harmful to them.

THE GRAVEL DISTRICT

- 2 The Planning Commission has concluded that allowing uncontrolled expansion of gravel mining,
- 3 extraction, and other collateral activities, can result in a gross change in the balance of the qualities of
- 4 life in Kasson Township. But the Commission also believes, if encouraged in specified areas, with the
- 5 proper controls (many having already been added to the Zoning Ordinance) with comprehensive and
- 6 rigorous reclamation standards, and the identification of uses to be allowed after mining and extraction
- 7 activities have ceased, that gravel mining is a beneficial use for the community.
- 8 Therefore, this Land Use Plan defines a Gravel Mining District. This district contains allowed, conditional
- 9 uses, and uses allowed only by a special use permit. It also provides for future uses that will be allowed
- 10 upon reclamation of mined areas.
- 11 Standards for before and after mining operations are promulgated in the Zoning Ordinance and it
- 12 defines clearly all the potential activities proposed for the district and provides developers precise
- 13 standards for operations, reclamation, and future uses.

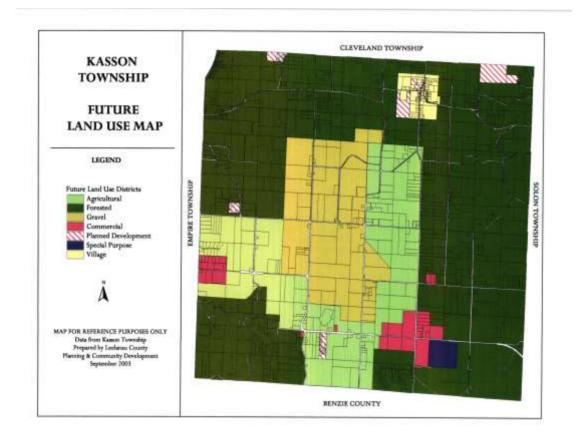
14

FUTURE LAND USES

- 2 The designated land uses indicated by the Future Land Uses Map represent the means by which the
- 3 Kasson Township Planning Commission intends to reach the goals and objectives in this Plan. This Plan
- 4 emphasizes preserving certain of the valuable resources of the Township by directing development in
- 5 ways that protect the environment, at the same time encouraging the careful development of others
- 6 with an eye still toward the future wise use of the land. The rural character of the Township is intended
- 7 to be preserved while diversity and accessibility are fostered.
- 8 As was portrayed, a gravel district is proposed in order to confine gravel mining to the areas already
- 9 being mined and to those areas identified as having the best deposits for mining. It is the Commission's
- 10 position that sufficient deposits will exist within this designated area for the foreseeable future and that
- 11 no other area in the Township shall be developed for this purpose. Other allowed current and future
- 12 uses within this district shall be developed in the Zoning Ordinance.
- 13 Also designated is an agricultural district where the primary use shall be farming and associated
- 14 activities and two areas with the primary human activity being residential: forest residential and higher
- density residential. Residential uses will also be allowed in the mixed-use areas of the Village. Four
- 16 small areas are designated for commercial and light industrial use.
- 17 The desired state of the land in each district is indicated by its name -Gravel, Agricultural, Forested,
- 18 Higher Density Residential, Mixed-use and Commercial and Light Industrial, Special Purpose and
- 19 Planned Development
- 20 The Zoning Ordinance designates allowed and conditional uses for each district. Densities are selected
- 21 for each district with performance standards enumerated to ensure deliberate and proper land
- 22 development and the maintenance of Township resources.
- 23 The designations on the Future Land Uses Map are general in nature and therefore not intended to
- correspond to property lines. The Planning Commission and the Township Board shall rezone particular
- 25 properties as they see fit to implement the Plan in an orderly and prudent fashion.
- 26

1

1 FUTURE LAND USE MAP



2

3 Figure 3- Future Land Use Map

4

5

GOALS AND POLICIES

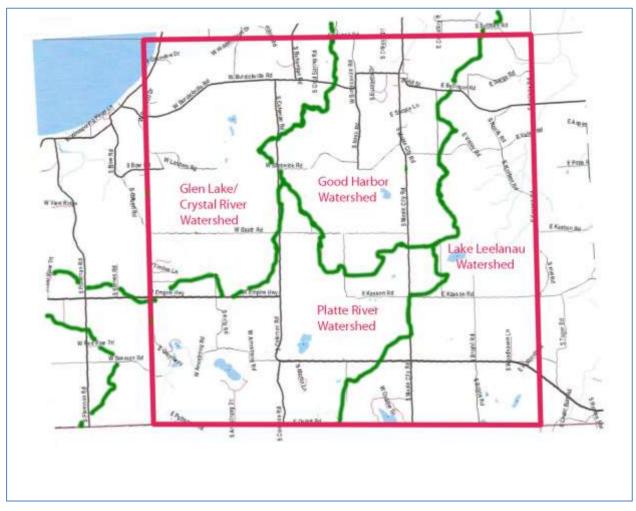
6 NATURAL RESOURCES

As has been stated repeatedly in this Plan, the natural resources of Kasson Township are the foundation
of its wealth, not just the means for production of goods, for logging, agriculture, and gravel extraction,

- 9 but for the beauty and repose sought and enjoyed by its residents. This Plan seeks to identify the
- 10 important natural assets of the Township and to suggest the means to preserve them to the greatest
- 11 extent possible. In addition to areas of the Township owned by the State of Michigan and the
- 12 Department of the Interior that are managed for both tourist amenities and productive resources, this
- 13 Plan puts forth standards and methods for retaining natural resources in other areas.

- 1 In the "Residential Housing" section, the Plan proposes only three residential districts, two of them
- 2 promoting the preservation of native terrain. One district encourages the preservation of farmland in
- 3 particular and one is protective of woodlands, but both espouse retaining as much natural and
- 4 undeveloped area as possible. The "Economic" and "Commercial & Industrial" sections of the Plan
- 5 require non-polluting and non-intrusive enterprises, and call for value-added activities for commodities
- 6 produced in the Township. Future ordinances promulgated by the Township will reinforce these
- 7 objectives and policies and provide the framework for the implementation of them.
- 8 As this section further suggests, additional, more detailed studies might be undertaken, either at the
- 9 Township, County or regional levels, to more accurately identify essential ecosystems, to define the
- 10 necessary bounds and conditions for their health and vigor, and to propose the means to maintain
- 11 them.
- 12 A review of watershed management plans for the four watersheds within Kasson Township help
- 13 determine locations and bounds of these essential sensitive ecosystems. Figure 4 identifies these
- 14 watersheds and delineates their boundaries Watershed plans are have been developed and approved
- 15 by the MDEQ for 3 of these watersheds (Glen Lake-Crystal River Watershed, Lake Leelanau Watershed
- and the Platte River Watershed) and can be obtained on the MDEQ website. The Good Harbor
- 17 Watershed is presently under development and once approved by the MDEQ will be available as well.
- 18
- 19

1 SURFACE WATERSHED BOUNDARIES



3 Figure 4 – Delineation of Watersheds in Kasson Township

4 THE AREA

2

- 5 Kasson Township, Leelanau County, has a land area of approximately 36 square miles and is located in
- 6 the Grand Traverse Region of northwestern Lower Michigan. Much of the terrain has been influenced in
- 7 earlier times by farming, logging, and other human settlement activities. Currently most of the
- 8 Township is occupied by second growth hardwood forests, agriculture lands, and fallow, open lands.
- 9 The natural beauty of the Township is largely intact and uncompromised.
- 10 In the Grand Traverse Region, urban and resort development is growing at an unprecedented rate.
- 11 Kasson Township's natural amenities have yet to be grossly affected by this second wave of immigrant
- 12 occupation. However, an absence of planning could result in rapid degradation of these amenities.
- 13 Fortunately, concomitant with sprawling urbanization and resortification, has come an intensified
- 14 concern for the management and preservation of natural and scenic resources. Increased human

KT MASTER PLAN 2014 – MARKUP DRAFT

- 1 occupation and increased use of natural resources, in the mode we have experienced in this country in
- 2 the last thirty years, destroys many of the values associated with a rural lifestyle. If the Township is to
- 3 avoid the degradation or destruction of scenic and natural resources on which rural quality of life
- 4 depends, then planning measures must be undertaken in a wise and timely manner.
- 5 A significant number of natural preservation activities are being pursued by federal, state, and local
- 6 organizations. The Leelanau County Planning and Community Department is involved in a number of
- 7 activities to protect water, land, and biological resources, including natural features mapping and
- 8 ordinance writing support, and thus, the quality of life available to county residents and visitors. The
- 9 Great Lakes Clean Water Initiative undertaken by EPA in March of 1995, will provide measures along
- 10 with Canada to clean up all the Great Lakes. Regional groups, such as the Grand Traverse Bay
- 11 Watershed Initiative, are actively promoting natural resource protection in the area. And the Leelanau
- 12 Conservancy educates local residents and outsiders about the County's natural environment as well as
- 13 vigorously pursuing conservation easements throughout the County.

14 Geography

15 **Topographic Maps**

16 Kasson Township is mapped on the 1983 Provisional Edition of Maple City and Burdickville, Michigan

17 USGS topographic quadrangle maps, 7.5 minute series.

1 TOPOGRAPHIC MAP OF KASSON TOWNSHIP



2

3 Figure 5 - Kasson Township Topography

4

5 **Topographic Elevations and Physiographic Features**

- 6 Referring back to Figure 4, the four watershed areas within Kasson Township, each drain to the water
- 7 bodies indicated by their names. The major water body closest in proximity to Kasson Township is Glen
- 8 Lake which drains through the Crystal River to Lake Michigan. Glen Lake receives a significant volume
- 9 of groundwater recharge from the north western part of Kasson Township as that area feeds the
- 10 eastern branch of Hatlem Creek, the sole major tributary to Glen Lake(Ref. Glen Lake Crystal River
- 11 Watershed Management Plan Figure 5 Darcy groundwater recharge map)

- 1 The Township has a diversity of physiographic features. Some areas, especially in the south and
- 2 southwest are level to gently sloping land. But a greater proportion of the Township is moderately to
- 3 steeply sloping. Surface elevations range from an approximate mean lake level of 597 feet at Glen Lake
- 4 to approximately 1037 feet at the highest part of Tower Road, an elevation gradient of 440 feet.

5 **Geologic Formations**

- 6 The northwest half of the Township is underlain by a bedrock of Antrim Shale and the southeast half is
- 7 underlain by Ellsworth Shale. Most of the bedrock is at a depth that varies between 400 and 800 feet
- 8 These geologic formations are the result of marine conditions that existed approximately 325 million
- 9 years ago during the Mississippian period of the Paleozoic era.
- 10 The glacial drift that overlies the bedrock was mostly deposited during the Valders Maximum glacial
- event, approximately 11,500 years ago. Township lands were formed when last glacial ice sheet
- 12 retreated and the melt water levels receded to form the existing lake shorelines, beaches, bluffs, and
- 13 lake benches. Lake Algonquin shoreline dynamics (elevation 605 feet) sculpted the drift and had a
- 14 major impact on the current land formation. Lake Algonquin resulted from the coalescence of glacial
- 15 Lakes Saginaw and Chicago.

16 Climate

- 17 The climate of Kasson Township is tempered by its proximity to Lake Michigan. Topographic relief,
- 18 aspect and distance significantly alter the growing season length for points throughout the Township,
- an approximate average is 135-149 days. For nearby Traverse City, the average date of the latest
- 20 freezing temperature is May 18 and the average date of earliest freezing temperature is October 7.
- 21 (Information taken from the National Weather Service, Gaylord, Michigan Office, "Northern Michigan
- 22 Climatology" website page http://www.crh.noaa.gov/apx/?n=climatology_frost).

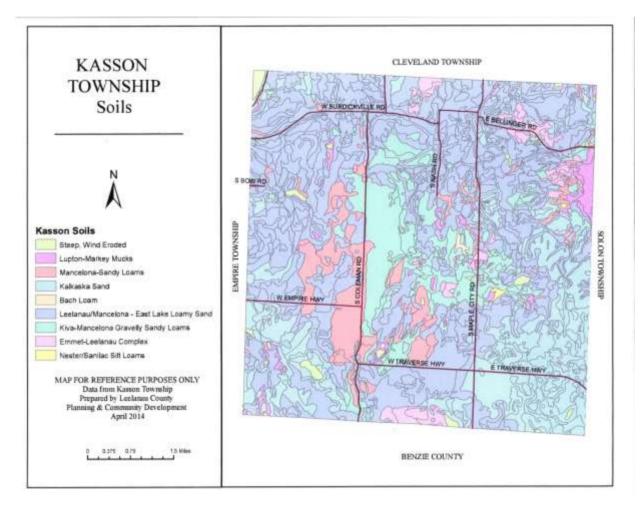
23 ECOLOGICAL FEATURES

24 Soil Types

- 25 The general soil types occurring in Kasson Township are depicted in Figure 5 Soil Types found in
- 26 Kasson Township. may be found Most of soils are well-drained and sandy. The northeast half of the
- 27 Township is mostly morainal soils, e.g. Leelanau-Mancelona Association and Kalkaska-East Lake
- 28 Association. These tend to be hilly areas of loamy sands. The southwest part of the Township is largely
- 29 outwash plain deposits, e.g. Kalkaska-Mancelona Association and Kiva-Mancelona Association. Gravel
- 30 and sand deposits are a significant element of the outwash material. The outwash plains are nearly
- level to gently sloping, but are deeply pitted in some places, especially near their borders.
- 32 In general the Kiva-Mancelona gravely sandy loams 0 -6% slopes are locally and statewide important
- 33 soils. Nearly level areas are suited to field crops and hay, and steeper areas are well-suited to pasture,
- 34 woods, or wildlife habitat. The Kalkaska Association soils are not generally well-suited to field crops.
- 35 Woodlands, pine plantations, and abandoned farms are common on these soils.

- 1 The soils in the Township are generally not well-suited to cherry production.
- 2

3 KASSON TOWNSHIP SOILS



4

5 Figure 6 – Soil Types Found in Kasson Township

6 Hydrogeology

- 7 A hydrological study (Wenck) was conducted as part of the Glen's Sanitary Landfill Construction Permit
- 8 Application. A copy of the report pertaining to hydrogeology is attached to the "Ecological & Natural
- 9 Features Report" as Appendix A., in the Township's Clerk's possession.
- 10 For more information regarding the hydrogeology, the Township map of oil and gas and water well
- 11 locations is available from the MDNR Geological Division. Information on obtaining these and other
- 12 groundwater database materials is presented in Appendix B of the Report.

- 1 A hydrological assessment was conducted for the Leelanau County Circuit Court Technical Committee
- 2 for the purpose of defining the water budget to more effectively control the Crystal River dam to
- 3 manage the Glen Lake water level and flow of the Crystal River. The October, 2009 report delineates
- 4 the Glen Lake-Crystal River groundwater watershed. Kasson Township includes a significant portion of
- 5 this groundwater watershed. The report estimates that a significant volume of groundwater flow
- 6 recharges the Haltem Creek sub-watershed (part of which is in the west central part of Kasson
- 7 Township and defined in the 2009 MDEQ/EPA approved Glen Lake-Crystal River Watershed
- 8 Management Plan as a critical watershed area).
- 9

10 Water Resources

- 11 Surface water bodies of the Township include a small portion of Glen Lake, and several small lakes, e.g.,
- 12 Bow Lake, Polack Lake, Gilbert Lake, Armstrong Lake, Davis Lake, Bright Lake, Hart Lake, Wells Lake,
- 13 Courson Lake, and Shisler Lake. A few small streams and drainages such as Lime Creek are also present.
- 14 Because soils in the area contain excess amounts of calcium and magnesium that leach into surface
- 15 waters, the inland lakes of the Township are characterized as hardwater. The calcium and magnesium
- 16 ions bond readily with excess nutrients such as phosphorus that then become deposited as sediments.
- 17 Since this leaves minimal nutrients for aquatic plant and algal growth, the lakes are generally clear. This
- 18 same chemical process buffers the lakes from harmful effects of acid rain.
- 19 Ground water in the vicinity of Glen's Landfill has been extensively studied. The Wenck report,
- 20 mentioned above, contains results of these studies. Groundwater contamination, including volatile
- 21 organic compounds, nutrients, total dissolved solids, was found. The relevant pages of this report are
- 22 included in the "Ecological & Natural Features Report".

23 Flora and Fauna

24

Overview

- 25 Broadly speaking, the Township lies in the Temperate Deciduous Biome of the Eastern United States.
- 26 This biome encompasses many different natural communities. Communities are naturally-occurring
- assemblages of plants and animals on the landscape that co-exist under the influence of soil, climate,
- 28 hydrology, disturbance regime, intra species association, and other factors. A classification of natural
- 29 communities seeks to group species assemblages into types that share similar characteristics. A detailed
- 30 site inventory and mapping of plant communities and scenic resources is highly recommended.
- 31 The communities present in the Township include dry northern forests, dry-mesic northern forests,
- mesic northern forests, hardwood conifer swamps, rich conifer swamps, northern wet meadows, and
 emergent marshes.
- 34 Vegetation cover/plant species and mammal and bird records presented by Wenck Associates of Grand
- 35 Rapids as part of Glen's Landfill Environmental Assessment are indicative of the Township as a whole.

1 The tables from their report containing this information are included as Appendix C in the "Ecological &

2 Natural Features Report".

3

Forests

4 Pre-European settlement may have created some open lands, but for the most part the Township

5 would have been nearly completely wooded. Wooded land presently covers approximately 57% of the

- Township. Since most of the soil is coarse and well-drained the most prevalent forest association is
 northern hardwoods (encompassing dry northern forest, dry-mesic northern forest, and mesic northern
- northern hardwoods (encompassing dry northern forest, dry-mesic northern forest, and mesic northern
 forest communities). Overstory species in this association include sugar maple, beech, basswood, white
- ash, black cherry, white pine, and hemlock. According to the Leelanau County Woodland Suitability
- 10 Guide (prepared by the Leelanau County Soil Conservation District, USDA Soil Conservation Service and
- 11 Michigan Department of Natural Resources) this association is approximately 75% of the Township
- 12 forest cover. The remainder of forest land is occupied by pine plantations, northern red oak, swamp
- 13 conifers, or lowland hardwoods. Most of forest vegetation is second growth, successional, and most of
- 14 the forests are younger than a hundred years.

Wetlands

- 16 Only a very small portion of the Township is occupied by wetlands, approximately 5% (See Existing Land
- 17 Use Map). Some of these wetlands are wooded by either lowland hardwoods or swamp conifers.
- 18 Others are emergent marshes bordering ponds or scrub-shrub wetlands. The well-drained, deep glacial
- 19 outwash characteristic of the Township is not conducive to wetland development. However, in glacial
- 20 till areas, the wetlands that do exist are critical from a biological habitat perspective because of their
- 21 scarcity. They dramatically increase plant and animal diversity in the Township and surrounding
- 22 landscape. They are an important resource for neotropical migratory birds, they are a refuge for reptiles
- and amphibians, and they serve as a replenishing seed source for hydrophytic plant species.
- 24

15

Landmark Trees

25 We recommend that landmark and other large trees in the Township be mapped and identified. This

- 26 could be accomplished by the efforts of interested volunteers, who could both inform themselves and
- 27 others by the process. These identifications should be then added to a natural resource management
- 28 plan map.
- 29

Agricultural Cover

Approximately 23% of the Township land is utilized for agriculture. This is primarily crop land. Orchards,
 Christmas tree plantations, and pasturelands are other minor elements of the agricultural landscape.

32 LONG TERM OBJECTIVES

A. To provide a safe, healthful and peaceful environment for all Kasson Township residents.

- 1B.To promote and preserve biological diversity and to provide the means for prosperous2ecosystems.
- 3 C. To engender wise use, economic or otherwise, of native natural resources.
- 4 D. To preserve by all appropriate means agriculturally productive lands for farming.
- 5 E. To protect and preserve a vital environment so it may remain the source of well-being for the 6 community.

1 POLICIES & ACTIONS

- Clean air and clean water are basic for a healthful life and paramount for the livelihood of
 Kasson Township's residents. The Township shall endeavor to maintain these conditions by
 joining with regional, national and international groups, to abate pollution and by promulgating
 standards in its ordinances.
- 6 2. Kasson Township shall work with the County in its efforts to establish and to enforce a county7 watershed drainage plan.
- 8 3. The Township will work with the County, the Leelanau Conservancy, and other entities seeking
 9 to acquire natural areas for recreation and preservation.
- Soil and subsoil conditions shall be evaluated in land use decisions to avoid erosion and the
 leaching of unfiltered waste water and potentially harmful substances into aquifers and into
 lakes, streams, or other bodies of water. The Township shall encourage region-wide
 hydrological studies to further define critical areas and to provide information upon which to
 base development decisions.
- The Township shall cooperate with the County to ensure proper disposal of solid wastes as well
 as promoting efficient use of resources to lessen the accumulation of solid wastes.
- The Township shall evaluate various wildlife habitats as part of its review of new projects.
 Greenways, buffers, and clustering of housing shall be encouraged or required to maintain a sufficient core of critical habitat and connections between ecosystems.
- 20 7. Recognizing the vital role the forests play in the Township's ecological health and in the 21 maintenance of its rural character, Kasson Township shall strive to preserve its woodlands by 22 promoting wise forestry management, including selective cutting and permanent forest 23 management, and by including trees and other vegetation in the site plan review process. The 24 watershed management plans developed for the four watersheds within Kasson Township are a 25 resourse to aid in this review process. For example, the Glen Lake-Crystal River Watershed 26 Management Plan defines five critical watershed areas that warrant more extensive 27 management consideration (ref. section 5.3, page 65). In groundwater recharge areas, 28 particularly where there are steep slopes with highly permeable soils, it is important to protect 29 forests and other deep rooted vegetation to minimize erosion which can drain into tributaries 30 during heavy rain events. This vegetation promotes ground water recharge, so important to 31 the clean water Glen Lake inflow. A critical area for preservation is the northwest portion of 32 Kasson Township which has a significant overlap with the Hatlem Creek sub-watershed.
- The Township shall do everything possible to encourage and to aid farming, including giving the
 lowest possible assessments (use valuation) to agriculturally productive lands, providing for
 buffers between agricultural and residential areas, allowing development in agricultural areas

- on non-productive land only, providing incentives for the clustering of residential housing and
 for other land uses that will allow agricultural land to remain in production.
- 9. The Township shall work with the Leelanau Road Commission and the Michigan Department of
 Transportation to keep rural and scenic standards on the Township's roads and highways. Safe
 access should be provided for residents and for tourists to recreational areas, but the
 construction of larger roads than necessary for safe travel which also might encourage
 immoderate residential growth or the overuse of natural habitats, shall be discouraged by all
 means.
- 9 10. The Township shall encourage appropriate commercial and industrial development which will 10 provide needed services and jobs within the community, eliminating some of the need to 11 commute or to travel for everyday necessities. Among the commercial enterprises sought for 12 the area will be agriculture and forest related value-adding activities to foster agricultural and 13 local resource industries.
- Kasson Township shall work with farmers to develop practices to ensure that pollutants or
 contaminants do not reach either ground water sources or surface water resources.

1 RESIDENTIAL LAND USE & HOUSING POLICY

The general goal of Kasson Township residential land use is to ensure a wide range of housing types and prices while maintaining the quality of the environment and the rural character of the community. Both full and part-time residency is increasing rapidly in the Township and, although the population density is still low, methods must be initiated to change the linear settlement patterns along roadways to retain the openness and views characteristic of the Township. The Commission is also concerned with the cost of housing in general in the Township (and elsewhere on the peninsula) as is illustrated by the following statistics:

9	INCOME:	Per Capita Income:	1985 @ \$12,634
10			1990 @ \$17,655
11			2000 @ \$19,319
12			2012 @ \$25,133
13	MEDIAN HOME \	/ALUE: 1985 @ \$ 48,600	
14			1990 @\$ 73,100
15			2000 @ \$116,700
16			2009 @ \$96,728

The existing land use survey discovered that, by and large, Township housing is in good condition andprovides homes to all economic levels of the community.

19 In accordance with the community survey results and the conclusions of the Commission, densities in

20 the rural areas of the Township should be reduced or housing units clustered, to retain open, forested,

21 and agricultural areas (the rural character of the Township). The most dense residential areas surround

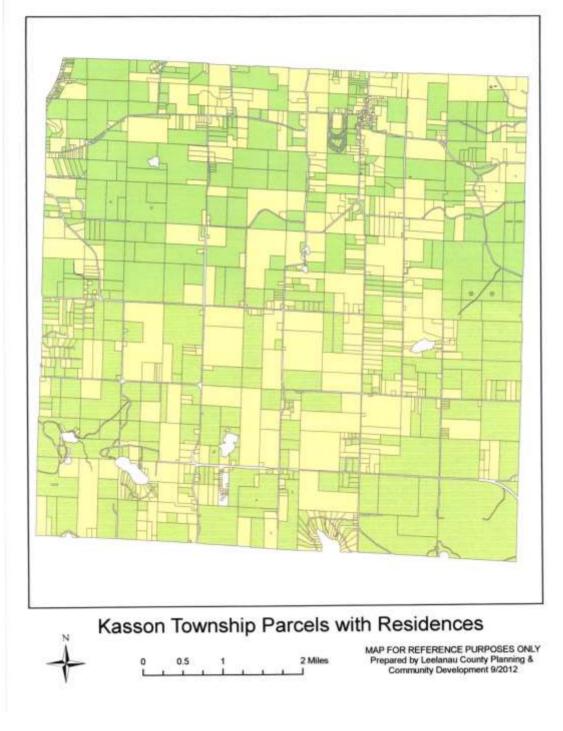
22 the Village. Other less dense housing is allowed in the other areas, with specific conditions for those

23 sections. Planned developments with large buffers providing both aesthetic and productive

24 conservation and preservation easements shall be the primary residential development method for the

25 Township.

1 KASSON TOWNSHIP PARCELS WITH RESIDENCES





4

1 KASSON TOWNSHIP BUILDING PERMITS

2	Permits	1991	1992	1993	1994	2002	2010
3	New Homes	12	17	16	8	12	8
4	Storage Building	s 20	28	12	24	12	20
5	Commercial	2	3			2	1
6	Mobile Homes	4	6	3	2	1	0
7	Additions &						
8	Remodeling	10	12	4	10	17	10
9	TOTAL	48	66	35	44	44	39
10	\$1	,066,000	\$1,843,500	\$2,410,203	\$813,200	\$2,643,611	\$1,814,750

11

1 LONG TERM OBJECTIVES

- A. To continue to provide a variety of housing for all economic levels of Kasson Townshipresidents.
- B. To control the manner and placement of new housing development in order to preserve therural character of the Township.
- 6 C. To mandate and enforce adequate buffers and proper regulations of nonresidential uses to
 7 ensure the quiet enjoyment of their homes by the residents of the Township.
- B. To manage growth, especially in prime natural resource areas, to prevent over burdening public
 services and to prevent destruction of the native terrain and pollution of the Township's
 resources.

1 POLICIES & ACTIONS

- Land use permits may be required of all operations that change the land or landscape. A site
 plan shall be required to obtain this permit. Grading, septic installation, house construction —
 may require land use permits. But agricultural activities associated with operating farms will not
 require a permit.
- Criteria used to evaluate any new rezoning requests or new subdivisions shall include
 anticipated traffic impacts, increased demands on public facilities, and effects upon the native
 terrain.
- 9 3. Higher density development shall be placed near the Village or only in other suitable locations,
 10 near services and facilities. A Planned Unit Development District is included in the Zoning
 11 Ordinance to allow for potential future higher density developments elsewhere.
- In order to maintain rural character and to preserve undeveloped native terrain, low residential densities shall be maintained outside the Village and the higher-density areas and
 open space and conservation planning shall be the standard method of ; development in these
 areas.
- Planned developments, clustered housing with large buffers, and undeveloped spaces,
 coordinated with the natural resources plan and careful site analysis for natural features, shall
 be the residential development methods of choice.
- Special housing needs of the elderly, and other groups identified as underserved, shall be
 identified and efforts made to meet those needs. Individuals shall be encouraged to utilize
 MSHDA or other programs for home ownership and home improvements.
- 22

7.

8. The mobile home, of which 10% of the Kasson Township housing stock is comprised, has always
 provided quick, efficient housing, cheaply. Unfortunately, historically these units deteriorated
 quickly and often did not have adequate storage, resulting in unsafe, as well as unsightly, areas.
 In order to continue to provide housing opportunities for lower income households, but to
 maintain safety and the general welfare, high standards for modular homes should be
 promulgated and enforced.

1 ECONOMIC DEVELOPMENT

- 2 This element of the Master Plan presents long-term goals for the economic health of Kasson Township.
- 3 The value of the natural resources and native terrain to the well-being of the community has already
- 4 been amply stated, but must be reiterated here in relation to the economy: all land uses and activities
- 5 should be measured by the effects they might have upon the beauty and integrity of the community
- 6 environment, especially those resources treasured by the Township's residents -the forests and
- 7 farmsteads and the abundant wildlife associated with them.
- 8 With an eye to preservation of the quality of the existing environment and community character, the9 paramount land use issues therefore are:
- 10 1) Where should commercial or industrial development be allowed and encouraged?
- 11 2) What uses might be prohibited or restricted?
- 12 3) How should existing businesses be aided to continue and to expand, if desired?
- 13 The Township's many assets include:
- A fair quantity of productive farmland;
- An educated citizenry;
- A wide diversity of tradesmen and women;
- An ample supply of high quality gravel deposits;
- The regional landfill;
- A significant flow of transfer payments into the community from both public and private
 sources;
- A large influx of summer residents and tourists at least passing through the area.
- 22 The assessment of the economy of Kasson Township is bound up in an examination of the general
- 23 Leelanau-Grand Traverse region, a region that is an attractive location for many people because it
- 24 combines abundant natural attractions with a perceived desirable northern Michigan lifestyle.
- 25 Although many retirees are moving to the area, added population means added commercial activity,
- 26 and therefore, jobs, support systems, and infrastructure are all required in increased quantities to
- 27 support population growth. These will be provided by all age groups. And this inexorable march of
- 28 change has and will continue to affect Kasson Township.
- 29 Clearly, though most of the change is originating from sources not controlled by Kasson residents, not
- 30 all such sources of change are new to the area. The Leelanau General Plan establishes Kasson Township
- 31 as the solid waste collection point for the entire region for at least the next 50 years.
- 32 Areas such as Kasson Township are perhaps slower to be affected by the direct changes to the area
- 33 since they do not share the waterfront resources or the winter tourist recreational outlets which serve

- 1 as population magnets for neighboring communities. In terms of recreation, Kasson Township is an area
- 2 to pass through to get to somewhere else.
- ECONOMIC ACTIVITY: With only Maple City as an indigenous commercial center, it is quite easy to
 assume that there is only limited potential in the Kasson Township area. The numbers speak differently.
- 5 Understanding the local market potential is basic to any discussion of local economic activity. Even if
- 6 there is no local interest in developing the local market potential, the numbers are not secret. At some
- 7 point, some motivated outside force may well act on untapped market potential. Therefore, we should
- 8 look at how an outsider might examine the market potential of Kasson Township.
- 9 Kasson Township is a small community when measured by population. As such, not many official
- 10 statistics are kept on a regular basis for the economic activity of the area. Much more information is
- 11 available at the County level. By combining County level information from several sources with the
- 12 Township information that is available, we begin to draw a picture of the market area for Kasson
- 13 Township.
- 14 Except for Maple City and Cedar, the population centers tend to be on the water and circle the
- 15 peninsula. Each of these communities appear to be self-sufficient with respect to commodity goods.
- 16 That is, it is unlikely that any significant number of residents of one of these communities would
- 17 routinely drive to another community to buy a quart of milk or any other product easily available closer
- 18 to home. Because of geography and the resulting system of roads, there is no reason for persons in the
- 19 outer ring communities to consider driving to Maple City to purchase a commodity product.
- 20 Our conclusion is that for non-specialty products, the Kasson Township market area is functionally
- jointed with Solon Township and covers the entire center of the Leelanau peninsula, being bounded on
- the south by Traverse Highway (M-72), on the west by Glen Lake, on the east by Lake Leelanau, and on
- 23 the north by the market area for the community of Lake Leelanau.
- 24 Because it is centrally located, the Kasson Township market area will receive some potential benefit
- 25 from all the other areas in the County. We believe it is reasonable to assume that the Kasson Township
- 26 market area supports most of the market potential for the Maple City and Cedar areas, and some of the
- 27 market potential for the Lake Leelanau market.
- 28 Population growth is the engine which will drive the changes in Leelanau County and by association in
- 29 Kasson Township. To date, Kasson has been perhaps an under-appreciated asset to the entire region
- 30 since it is the site of both the primary landfill site in the entire multi-county region and is blessed with
- 31 substantial deposits of accessible gravel, a key construction material for roads and structures. Growth
- 32 places a premium on the assets of Kasson Township. While Kasson Township provides considerable
- 33 gravel, agricultural and waste services to the region, the economic value of the local residents in the
- 34 Kasson Township community should not be understated. Kasson Township is uniquely situated close to
- 35 Traverse City and other nearby population centers like Glen Arbor, Empire, and Cedar, as well as a large,
- 36 seasonal, lakefront population within driving distance. Kasson Township supports many working class,

- 1 year-round residents who choose to live here for the natural beauty and the professional opportunities
- 2 found nearby. As we look toward the growth of home-based employment in the age of remote office
- 3 technology and combine it with an increase in service-based employment associated with an aging
- 4 regional population, this trend for residential growth in our township will likely gain momentum. The
- 5 competitive priced real estate in Kasson Township, desirable school system, and the proximity to
- 6 existing and expanding employment opportunities, suggests that the population of year-round
- 7 residents and the economic value of these residents within the township will expand. This highlights
- 8 the importance of protecting the quality of life here for those residents by appropriately balancing
- 9 natural resource development and waste services with maintaining the aesthetic, environmental
- 10 health, and other desirable attributes of the township into the future.

- A. To afford entrepreneurial and employment opportunities for Township residents to increase
 the commonwealth
- B. To encourage appropriate commercial and industrial activities that will increase the tax base of
 the community.
- 6 C. To make the Township and the region more self-sustaining.
- D. To protect the vital and irreplaceable natural assets of the Township without which all else isnaught.
- 9

1 **POLICIES AND ACTIONS**

- The Township Board and Planning Commission shall help to provide the conditions that will aid
 and encourage existing businesses within the Township.
- Ordinances and regulations shall be promulgated to encourage desired enterprises, but also to
 protect the natural resources, rural character, and quiet enjoyment of the community and to
 ensure that all commercial and industrial operations bear their proportionate share of
 community burdens.
- 8 3. Encourage the organization of a local economic development group that will:
 - a) Establish a network of economic information about the area and possible sites for new businesses and consider ways to jointly promote local affairs.
- b) Identify lacking services and businesses that could take advantage of the market base of the
 area and make certain the Township can and will accommodate them identify vacant
 property, ensure proper zoning, streamline approval procedures.
- 14 c) Compile and publish a directory of community businesses, trades and craftsmen.
- d) Promote agriculture and all products that are grown locally and investigate ways to
 increase the value of these products for export.
- e) Consider developing an annual event, perhaps around a particular attribute of the
 Township, or a county fair at the County Park.
- Continue to encourage home businesses that are not nuisances within their districts or
 neighborhoods.
- 21 5. Prepare a Capital Improvements Program for the Township and annually update it.

22

9

1 COMMERCIAL & INDUSTRIAL LAND USE

- 2 Commercial and industrial land uses anticipated and desired by Township residents range from office to
- 3 light industrial. As discussed throughout this Plan, Kasson Township is home to intensive mining and
- 4 ancillary activities and to the regional landfill. Currently, small-scale business activity is scattered
- 5 throughout the Township with a small congregation of cultural, business, and public facilities centered
- 6 in the village of Maple City.
- 7 The Planning Commission intends the Village to remain a center of commercial activity and to grow
- 8 with mixed commercial and residential uses while retaining its village character. From our investigation
- 9 of area economic data, it appears there is ample opportunity to accomplish this. Two other modes of
- 10 limited scale commercial activity are designated, one at the west Township border on West Empire
- 11 Highway (M-72) and the other at South Maple City Road (County Road 667) and Traverse Highway (M-
- 12 72). Tourist-related and highway service types of uses, along with other compatible enterprises, are
- 13 indicated for these areas.
- 14 The largest commercial area designated in this Plan is the Gravel District. It has been so designated, as
- 15 previously noted, as an indication to developers, entrepreneurs and possible home builders of the area,
- 16 that the Township intends this area primarily for gravel mining and other allowed uses. This Plan sets
- 17 out (with expansion and clarifications to be accomplished in the zoning ordinance) potential future
- 18 allowed uses to be planned for and accomplished upon reclamation of exhausted gravel sites. Some
- 19 future uses proposed for this district are:
- 20 A county industrial park
- Planned residential developments
- Natural area park
- In order for any of these uses to be installed in the future, the site plan and reclamation plan should
 include retention and rejuvenation of the native terrain and reintroduction of agricultural operations in
 order to fulfill the primary goal of this Plan -to maintain the rural character and the balance of natural
- attributes of the Township. Large buffer areas along the roadways and between intensive uses and
- residential complexes must be maintained during gravel extraction operations and established after
- gravel operations before intensive uses would be allowed. Therefore, required plans, before issuance of
- 29 permits for operation, should require identification of post-reclamation uses and include the
- 30 maintenance of buffers (or a scheme for creating them in a timely way) for the intended future uses.
- Finally, the Township extends an invitation to Glen's Sanitary Landfill, Inc. & Waste Management, Inc.,
- 32 as one of the most prominent commercial enterprises in the area, to work with it to promote the
- betterment of the Township and the region. Both realize the profound impact a regional landfill can
- 34 have upon the host community and that they should combine their resources to mitigate any potential
- negative effects of the facility and to create a healthier and more beautiful community.
- 36

- 2 A. To provide for diverse commercial and light industrial opportunities within the Township.
- B. To allow and encourage mixed commercial uses and higher-density housing at Maple City and
 to promote its growth as a cultural and commercial area for central Leelanau County.
- 5 C. To provide other areas outside the Village for commercial enterprise at specific nodes for future 6 development, as well as to ensure continued home occupation activities.
- D. To promote the planned extraction of gravel within the designated gravel district, along withplanned future uses.
- 9 E. To promote the construction of adequate roads and other infrastructure to support commercial 10 activities.
- 11

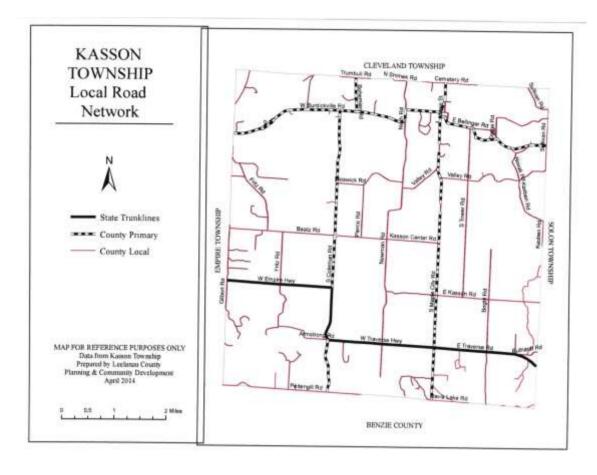
1 POLICIES & ACTIONS

- Appropriate light industry and commercial entities shall be encouraged to locate in designated
 areas in the Township. Any requests to install commercial or industrial activities outside
 designated areas shall be vigorously discouraged.
- 5 2. The possibility of a county industrial park to be sited in the reclaimed gravel district (or 6 elsewhere) shall be investigated.
- Methods should be instituted for cooperative construction of adequate infrastructure for
 commercial and industrial activities.
- 9 4. Site plan review shall be required of all non-residential uses to ensure adequate buffers for
 10 commercial uses, the protection of the native terrain, as well as proper site facilities.
- 15. Special standards might be promulgated for the Village to maintain its small town character.
- Devise a plan to take advantage of the summer population and tourists of all seasons, who
 either stay in the area or pass through to other destinations.
- 14 7. Promote cottage industry, home businesses in rural residential areas.
- 8. Participate in county and regional planning to make certain Kasson Township's interests are
 being promoted and achieved.
- Cooperate with entrepreneurs wishing to locate desirable businesses in the Township by
 making rules and regulations for site development clear and straightforward, and by being
 willing to work with them to bring projects to fruition.
- 20 10. Encourage enterprises that can add value to local resources or products.

1 TRANSPORATION

- 2 The private automobile is the primary means of transportation in Kasson Township. Although there are
- 3 some scattered airfields in the area, and public transit is available on-call through the Bay Area Transit
- 4 Authority, for almost everyone the means of getting to work, shopping, or simply getting around, is the
- 5 car or truck.
- 6 The Commission believes the Township roads to be well maintained, with some providing paved
- 7 shoulder routes for bicycles.
- 8 The Commission discussed the purposes of roadways and their necessary construction based upon
- 9 uses, or proposed uses, along them. The arterials through the Township were denoted East
- 10 Bellinger/West Burdickville Roads through Maple City to Glen Lake Schools and Glen Lake; and the
- 11 north-south routes, S. Maple City Road and S. Coleman Road, S. Maple City -Road linking Maple City
- 12 with Traverse Highway (M-72) and S. Coleman Road, servicing much of the gravel and agricultural areas
- 13 of the Township. M-72 traverses the southern portion of the Township linking the west coast of
- 14 Michigan to points east, all the way to the east coast at Harrisville on Lake Huron.
- 15 The Commission also noted that over-improving roads could lead to increased development, especially
- 16 residential development. Mobility for a rural area such as Kasson Township is of great importance, since
- 17 most workers commute and services and facilities are not often within walking or biking distance. But
- 18 the peace and quiet and pure air prized by Township residents could be diminished markedly if traffic is
- 19 not channeled properly and residential development is allowed to continue to spread along the roads.
- 20 Private or public roads to be developed off the main roads shall be preferred.
- 21 Bicycles are rarely considered or used as a means of transportation; but in order to encourage greater
- use and to provide safer and better means for the many bikers who travel through 'Kasson Township
- and Leelanau County, this Plan proposes paved shoulder routes or separated pathways where possible.

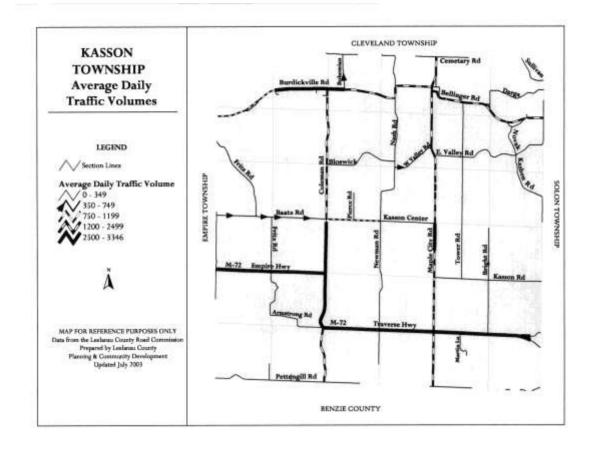
1 KASSON TOWNSHIP LOCAL ROAD NETWORK



2

3 Figure 8 – Kasson Township Local Road Network

1 KASSON TOWNSHIP AVERAGE DAILY TRAFFIC VOLUMES



2

3 Figure 9 – Kasson Township Average Daily Traffic Volumes

- 2 A. To provide a sufficient transportation system for all Township needs.
- B. To promote the construction of local private or public roadways to limit the number and
 frequency of access points along designated collectors.
- 5 C. To discourage over-building of roads in rural areas.
- D. To encourage local enterprise, decreasing the need for commuting shopping trips outside thearea.
- 8 E. To provide mobility to all segments of the Township's population.
- 9 F. To maintain the beauty of the Township as viewed from its roadways.

1 POLICIES & ACTIONS

- Intensive land use areas, such as gravel and waste disposal, shall be identified and the roads to
 service these areas improved to the degree necessary.
- Identify rural areas where roads will remain agricultural or residential. Have designated as
 "Natural Beauty Roads" if they meet necessary standards.
- 6 3. Identify bicycle pathways and work with agencies to obtain funding to install both -shoulder7 and off-street paths.
- 8 4. All land use decisions, e.g., rezonings, site plan reviews, should include traffic " impacts and
 9 other transportation considerations.
- Pedestrian pathways should be installed in village areas to encourage non-motorized " trips and to provide a safe means to do so.
- Higher density residential development shall be close to goods and service providers to
 decrease the number and length of trips outside the area.
- Problem traffic areas shall be identified and possible solutions forwarded to the Road
 Commission for its consideration.
- 8. The Township should cooperate with the Bay Area Transit Authority to ensure that local citizens
 without autos or unable to use them because of handicaps, are able to obtain transportation to
 meet their needs.
- Adequate off-street parking should be required of all new construction (except in the Village,
 where public or joint parking might be necessary).
- 21 10. Provision for snow removal should always be considered in parking and roadway , plans.
- 11. Buffer zones of undisturbed trees and other vegetation as well as new landscaping, should be
 required of all new residential development to separate residential areas form arterials or
 collectors. Commercial developments should be required to install street trees in accordance
 with an overall goal of tree-lined streets and highways and the scenic presentation of the
 Township.
- 12. The Township should encourage participation by its residents, and others commuting to the
 Township, to use ridesharing or van-pooling to lessen air pollution.
- 13. Work with the Leelanau County Road Commission, TC-TALUS, The Northwest Michigan Council
 of Governments, to further the above aims, to cooperate and coordinate with area-wide plans
 to insure that Township needs are addressed and that the Township is aware of all funding
 possibilities for its transportation needs.
- 33 KT MASTER PLAN 2014 MARKUP DRAFT

1 UTILITIES & PUBLIC SERVICES

- 2 Kasson Township is a small rural community and thus its municipal government provides limited
- 3 services and has few facilities. As in most rural townships in Michigan, the County or a consortium of
- 4 counties provide most governmental functions including police, public health and social services, and
- 5 soil erosion, building inspection, and planning services. Leelanau County, either by its own staff or by
- 6 contract with other agencies, supplies these services for Kasson Township. The County road system is
- 7 administered by the Leelanau County Road Commission.
- 8 Fire suppression and emergency services are provided in the Township, by contract/agreement with the
- 9 Cedar Fire Department, also know as the Solon-Centerville Fire Department, located in Solon Township
- 10 near the northeast corner of the Township, the Empire Fire Department from Empire west of the
- 11 Township, and the Glen Arbor Fire Department. The Cedar Fire Department is about three miles from
- 12 Maple City and seven from the Glen Lake Schools campus. There is not a public water system nor a
- 13 sanitary sewer system within the Township, water and sewage disposal being handled privately and, in
- 14 all cases, by individual parcel. Most soils in the Township are sandy or gravelly and accommodate septic
- 15 systems easily, but also require deeper water wells in many locations.
- 16 Solid waste disposal is provided locally by American Waste Inc., Kalchiks Disposal Service, Inc., County-
- 17 wide recycling, Bay Area Recycling for Charities and as has been stated, the regional landfill, Glen's
- 18 Sanitary Landfill, Inc., located on E. Traverse Highway (M-72) in the southeast quadrant of the
- 19 Township. Glen's provides solid waste disposal at a fee.
- 20 The following are private and public suppliers of various utilities:

Electric power distribution	Consumers Energy & Cherryland Electric Co-op
Communication electronics networks:	
Telephone	Century Link Company
Communication Tower on Tower Rd.	Leelanau County Law Enforcement NPI -cell phone company American Mobile Communication -cell phone
Cable TV	Charter Communications
Natural gas distribution	Michigan Consolidated Gas Company

- 21 Electric power is available throughout the Township as is the telephone system. But the cable TV
- 22 network is limited, as is the natural gas system.
- 23 Storm drainage in the Township occurs almost entirely by natural systems, aided by ditching and the
- 24 placement of culverts to ensure proper flow past man-placed obstacles. The Soil Erosion, Sedimentation
- and Storm Water Runoff Control Ordinance, ("Storm Water Ordinance"), was adopted by the County in

KT MASTER PLAN 2014 – MARKUP DRAFT

- 1 April 2003. This Plan supports that objective and suggests adoption and implementation of regulations
- 2 including site plan review, land division review and subdivision regulations. Retention and detention of
- 3 storm waters should be required to prevent erosion and pollution of surface and ground waters.
- 4 Wetlands areas should also be preserved and utilized to naturally and effectively slow and cleanse
- 5 storm water run-off.
- 6 The old Leelanau County dump site adjacent to Glen's Sanitary Landfill, Inc. has been, and remains, a
- 7 source of concern to Township residents. At a meeting of the Township Planning Commission on
- 8 January 20, 2014, Randy Goodman representing Waste Management, the current operators of the
- 9 landfill, was invited to the meeting in order to bring the Commissioners up to date on the status of the
- 10 landfill and the ground water contamination. The following is an excerpt from the minutes of that
- 11 meeting.
- "Chairman Carter asked, if when the groundwater is tested, does Goodman receive a breakdown of allthe chemicals contained in the sample? Mr. Goodman: Yes. We get a full report from each monitoring
- 14 well. Carter: Are all the wells located on your property? Goodman: there are wells on our property, on
- 15 state land to the south and west, and two wells north of M-72. Carter: Is there material in the water
- 16 that would be harmful if drunk by a human? Goodman: The monitoring system was put in due to a low
- 17 level of benzene contamination. All the contamination is either on landfill property or on state land to
- 18 the south and west. The flow is to the southwest. Originally there were seven remediation wells and
- 19 now they are down to two because the plume has been contained and its extent has been pulled in.
- 20 They are now in the process of trying to shut down the one remediation well that is on state land,
- 21 leaving only a final remediation well. In remediation, the water is pumped from the plume, sprayed
- into the air where the benzene evaporates and the remaining uncontaminated water returns to the
- 23 ground. Commissioner Roush: Are the tests mandated by state? Goodman: Yes. The state mandates
- 24 a full report, including the monitoring wells four times per year.

1 **PUBLIC FACILITIES**

- 2 Kasson Township Hall is located at the intersection of S. Newman Road and W. Kasson Center Road. The
- 3 Hall was purchased from the Michigan State Grange in 1968. Since it is located on a two (2) acre parcel,
- 4 there is adequate room for expansion if and when necessary.
- 5 The local area Glen Lake Community Schools campus is located in Kasson Township on West
- 6 Burdickville Road (County Road 616) near the northwest corner of the Township. The campus houses
- 7 kindergarten through high school. Parochial schools are available outside the Township in Lake
- 8 Leelanau, and Traverse City. There are private schools also available locally, although not in the
- 9 Township: the Pathfinder School, the Leelanau School, the Montessori Elementary School, and the
- 10 Interlochen Arts Academy. Northwest Michigan College, located in Traverse City, is the only institution
- of higher learning in the area. Cooperative and extension courses from state universities may be taken
- 12 at the College, with various degree programs available. The College has extended its funding base and
- 13 has broadened its reach by electronically networking with local school districts, induding the Glen Lake
- 14 Schools, with the College and to other cooperating universities in the State.
- 15 There are seven cemeteries within Township boundaries:
- 16 1. Holden-Wilson
- 17 2. St. Rita
- 18 3. Pettengill & Nash
- 19 4. Rose Hill
- 20 5. Kasson Township
- 21 6. Round Top
- 22 7. East Kasson
- 23

Leelanau County's largest park, Miles Kimmerly, is located about halfway between Maple City and the School on West Burdickville Road across from the County nursing home. The Park is approximately 120 acres, with three tennis courts, baseball fields, soccer fields, a children's playground, a sledding hill, a golf driving range, a 18 hole disc course, volleyball courts, the Pat Hobbins Walking Trail and barbeque and picnic areas. It is maintained by the County. Across the road the local 4-H Club renovated the small bam next to the nursing home and installed two new arenas for horse shows and activities.

- 30 In 1996 Kasson Township purchased 1.19 acres adjacent to the Cedar-Maple City lions Club, located in
- downtown Maple City. With the help of the Lions Crab members, this Park has been developed and
- 32 provides a children's playground and picnic tables and grills.

- 1 Other public recreation facilities are located at the Glen Lake Schools. The campus has a football field
- 2 and track, a baseball field, and an outdoor soccer field and a gymnasium for basketball and other indoor
- 3 sporting activities. There is also a playground for the younger students.
- 4 Other public recreation facilities locally available to Kasson Township residents are the tennis courts
- 5 and baseball fields in Cedar, public access to local lakes at Lime Lake, Glen Lake, Armstrong Lake, Lake
- 6 Leelanau, and Lake Michigan, and access to state and federal forest and park lands. Old Settlers Park,
- 7 which provides recreation opportunities including picnicking, swimming, fishing, boating, and a
- 8 playground, is located just outside the Township borders on S. Dunn's Farm Road (County Road 675).
- 9 Privately, the Cedar Rod and Gun Club, located within the Township on Sullivan Road, offers skeet, trap,
- 10 target shoot and sporting clays. The club also offers safe gun handling courses to the public.
- 11 There are a number of campgrounds in the area, including the Leelanau Pines, Indigo Bluffs RV Resort
- 12 and Spa, and the Empire Campground. Also, the old Maple City Schoolhouse has been renovated to
- 13 include exercise and therapy equipment, and gymnasium as well as acting as a community center for
- 14 other activities.
- 15 In Traverse City there are a gamut of recreational opportunities, from ice skating at the Howe Arena, to
- 16 swimming and boating. The whole northwest area of Michigan abounds in forests, rivers and lakes with
- 17 opportunities for hiking, fishing, hunting, birding, and many other outdoor activities.
- 18 The Glen Lake Community Library, located in Empire, is available to Township residents.
- 19

- A. To provide and maintain basic facilities and services deemed necessary and within the purview
 of the Township government for the health, safety and welfare of Kasson Township residents.
- B. To provide quality public facilities appropriately located throughout the Township.
- 5 C. To plan for continued expansion and improvement of facilities necessitated by increasing6 population and tourism.
- D. To work with the Glen Lake Community Schools, surrounding townships, the County, and the
 Northwest Michigan Council of Governments to coordinate plans for sufficient facilities and
 services in the entire region.
- E. To utilize effectively existing funding sources and to investigate new sources of funding for theprovision of facilities and services deemed necessary.

1 POLICIES & ACTIONS

2 1. The Township shall continue to work with Leelanau County to provide social, cultural and 3 recreational facilities and programs for Township residents and residents of the entire area. 4 2. The Township shall seek help and guidance from County agencies to ensure successful 5 programs to aid needy groups or individuals. 6 3. The Township shall investigate the need for, and feasibility of, installing public water and 7 sewers or other joint operating systems in Maple City and any other densely developed areas 8 around the Township lakes. 9 4. Transportation and roadway needs will be monitored annually and the best measures taken to 10 implement the objectives of this Plan. 11 5. Institute a capital improvements program to insure planning for construction, rehabilitation and 12 maintenance of needed facilities. 6. Prepare a recreation plan and work to implement it. 13 14 7. Representatives to be sent to Leelanau County meetings and the meetings of the Northwest 15 Michigan Council of Governments to help coordinate efforts within the County and region, and 16 to ensure the Township's needs are properly addressed. 17 8. Communication with the Glen Lake Community School District should be maintained and 18 improved, and efforts to coordinate, and not duplicate, facilities and services should be 19 undertaken. 20 9. Continue to support the county solid waste and recycling plans. 21 10. Encourage the formation of a local group to promote Maple City as a location for health care and medical facilities. 22