A photograph of a flooded residential street. In the foreground, a person is standing on a small wooden raft in the water, holding a long pole. The water is murky and reflects the surrounding houses and trees. Several houses are visible, some with water reaching their windows. A utility pole with a sign is in the foreground on the left. The background is filled with lush green trees.

# Kenosha County Hazard Mitigation Plan: Local Planning Team Meeting October 23, 2015



**SEWRPC**

Serving the counties of  
Kenosha, Milwaukee,  
Ozaukee, Racine, Walworth,  
Washington, and Waukesha

Joseph E. Boxhorn, Ph.D., Senior Planner  
Southeastern Wisconsin Regional Planning Commission

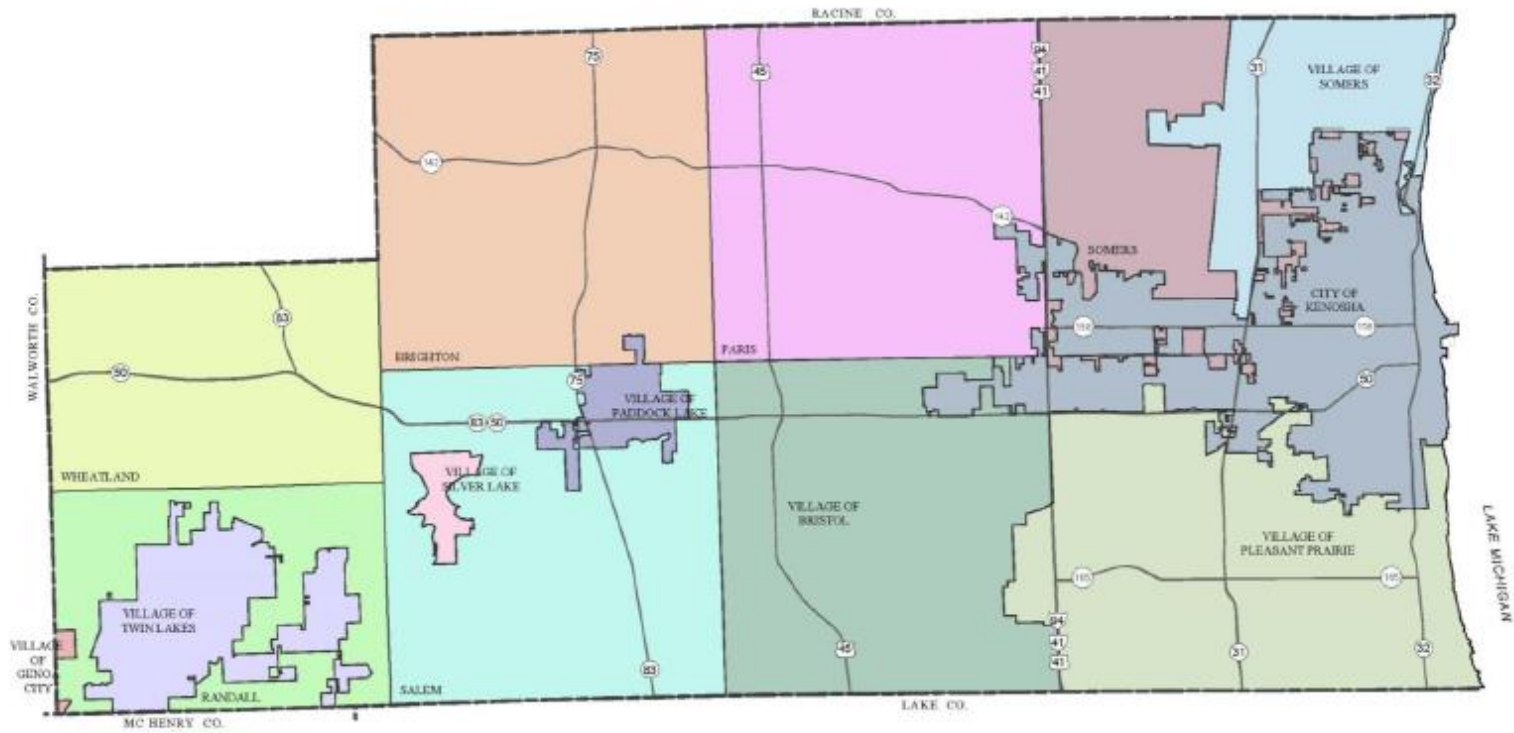
# 228395

# Chapter I

## Introduction and Background

Map I-1

CIVIL DIVISION BOUNDARIES IN KENOSHA COUNTY: 2015



Source: SEWRPC

PRELIMINARY DRAFT

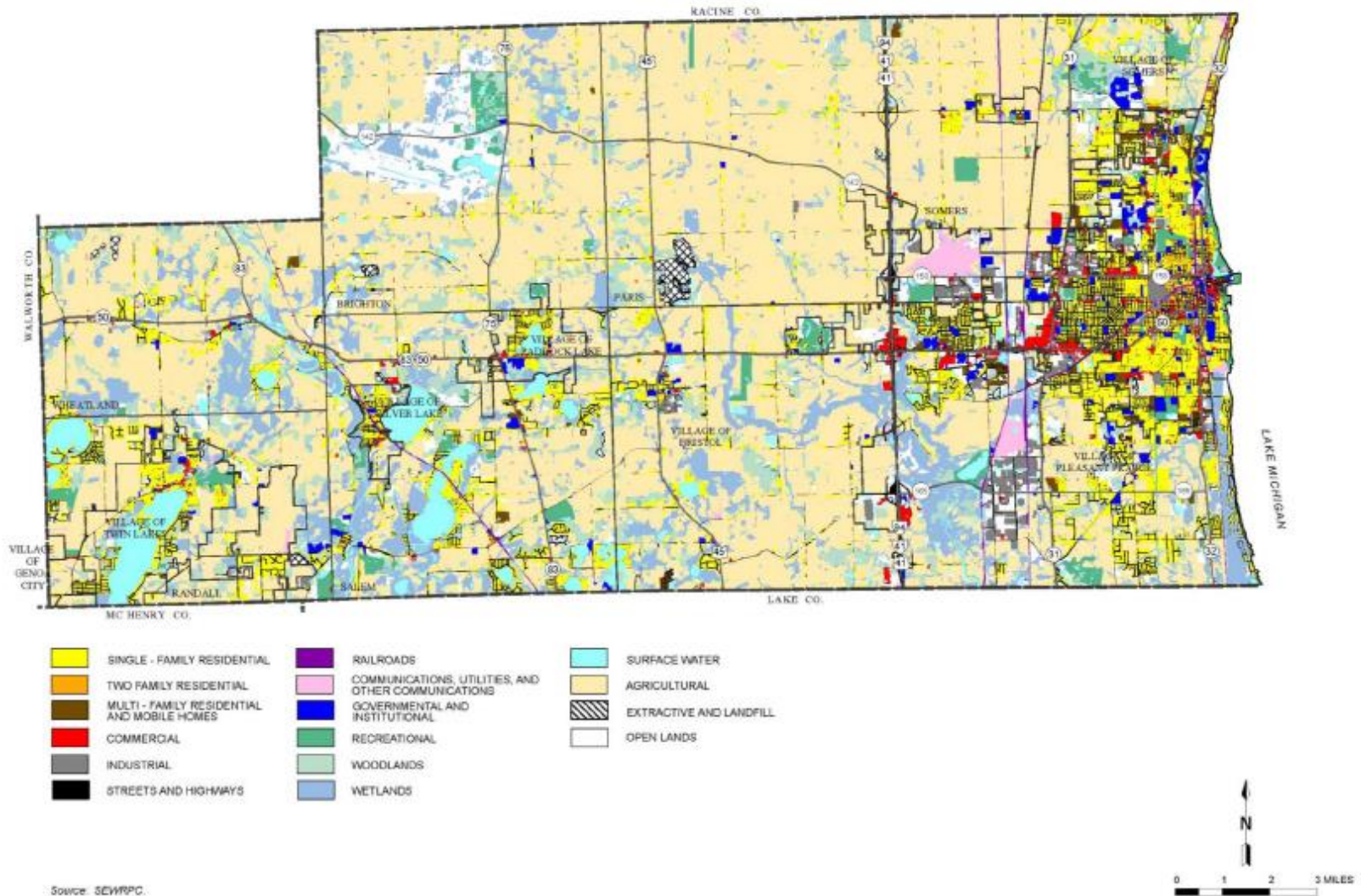


# Chapter II

## Basic Study Area Inventory and Analysis

### Map II-1

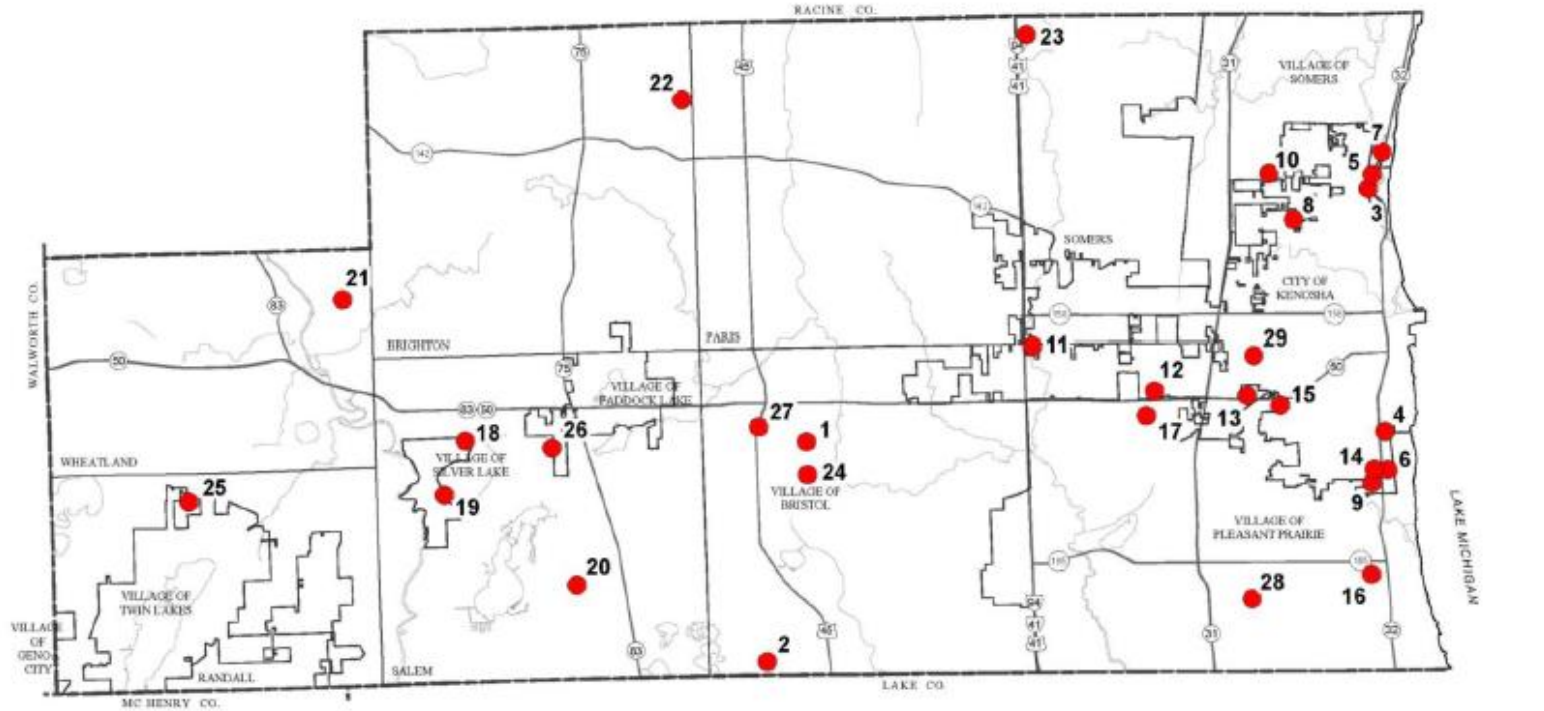
### EXISTING LAND USE IN KENOSHA COUNTY: 2010



Source: SEWRPC.

Map II-2

MOBILE HOMES AND MOBILE HOME PARKS IN KENOSHA COUNTY: 2010



- MOBILE HOME PARK LOCATION
- 22 REFERENCE NUMBER (SEE TABLE I-7)

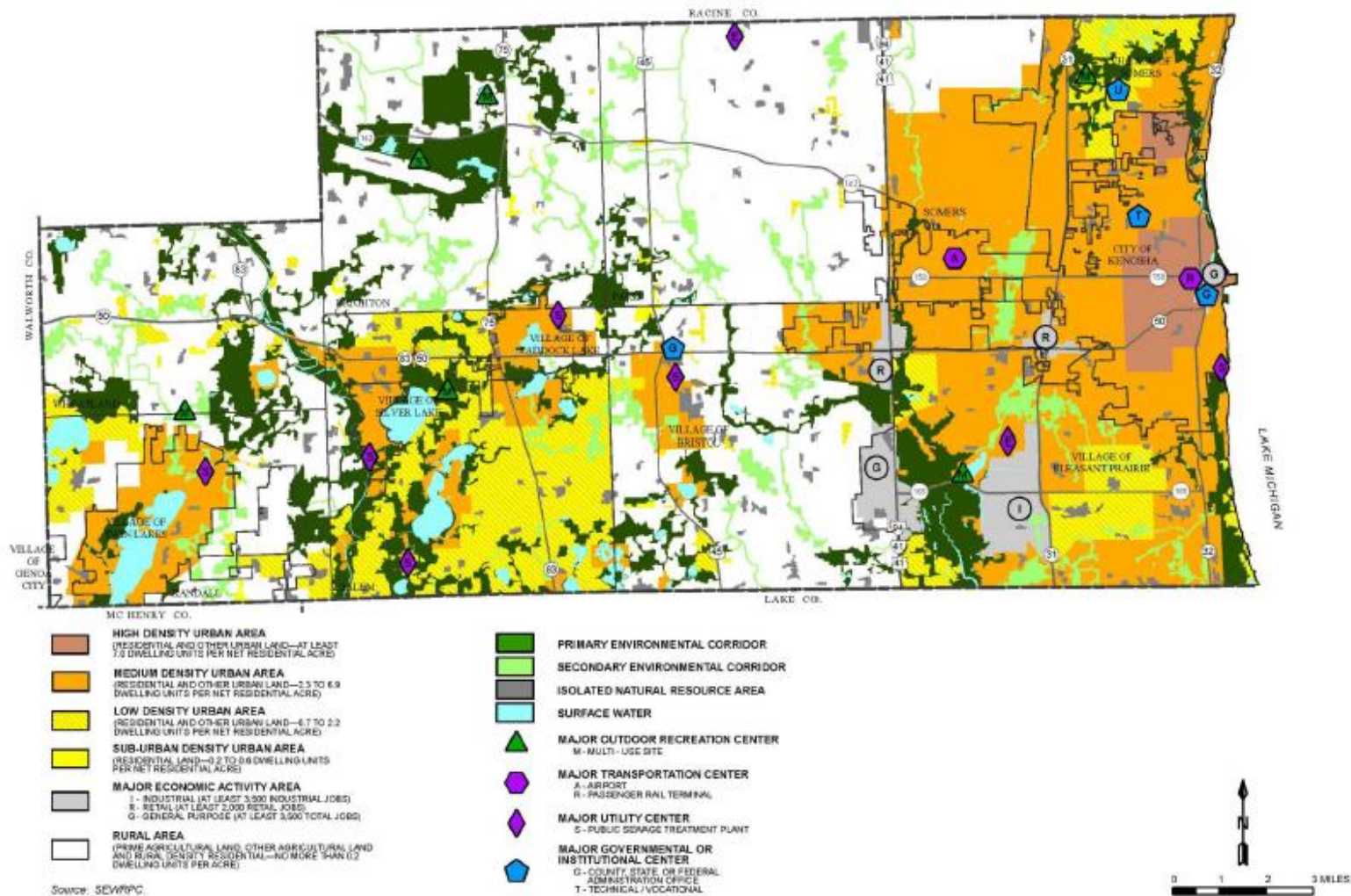
SOURCE: SEWRPC





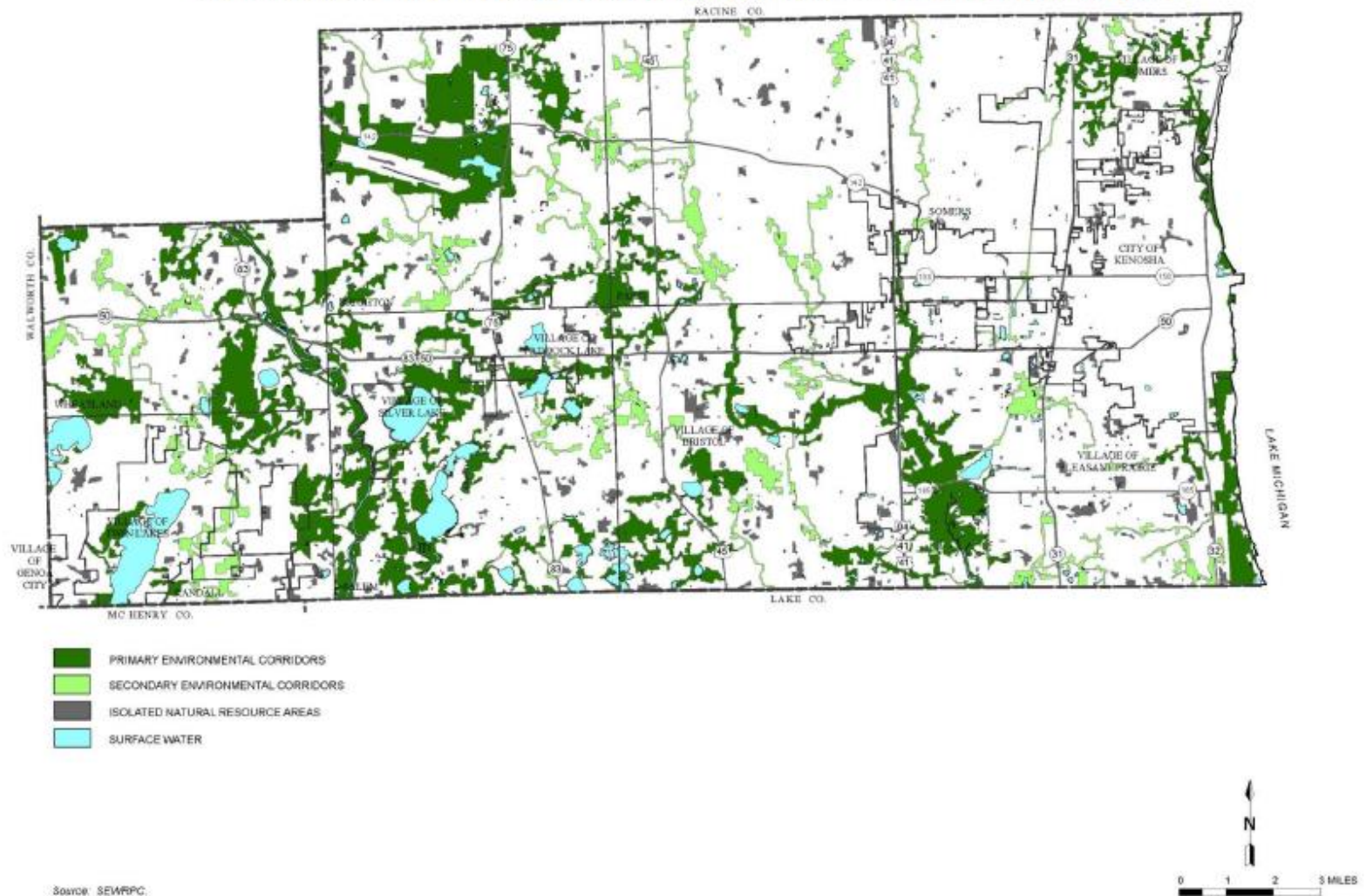
Map II-3

2035 REGIONAL LAND USE PLAN AS IT PERTAINS TO KENOSHA COUNTY



Map II-4

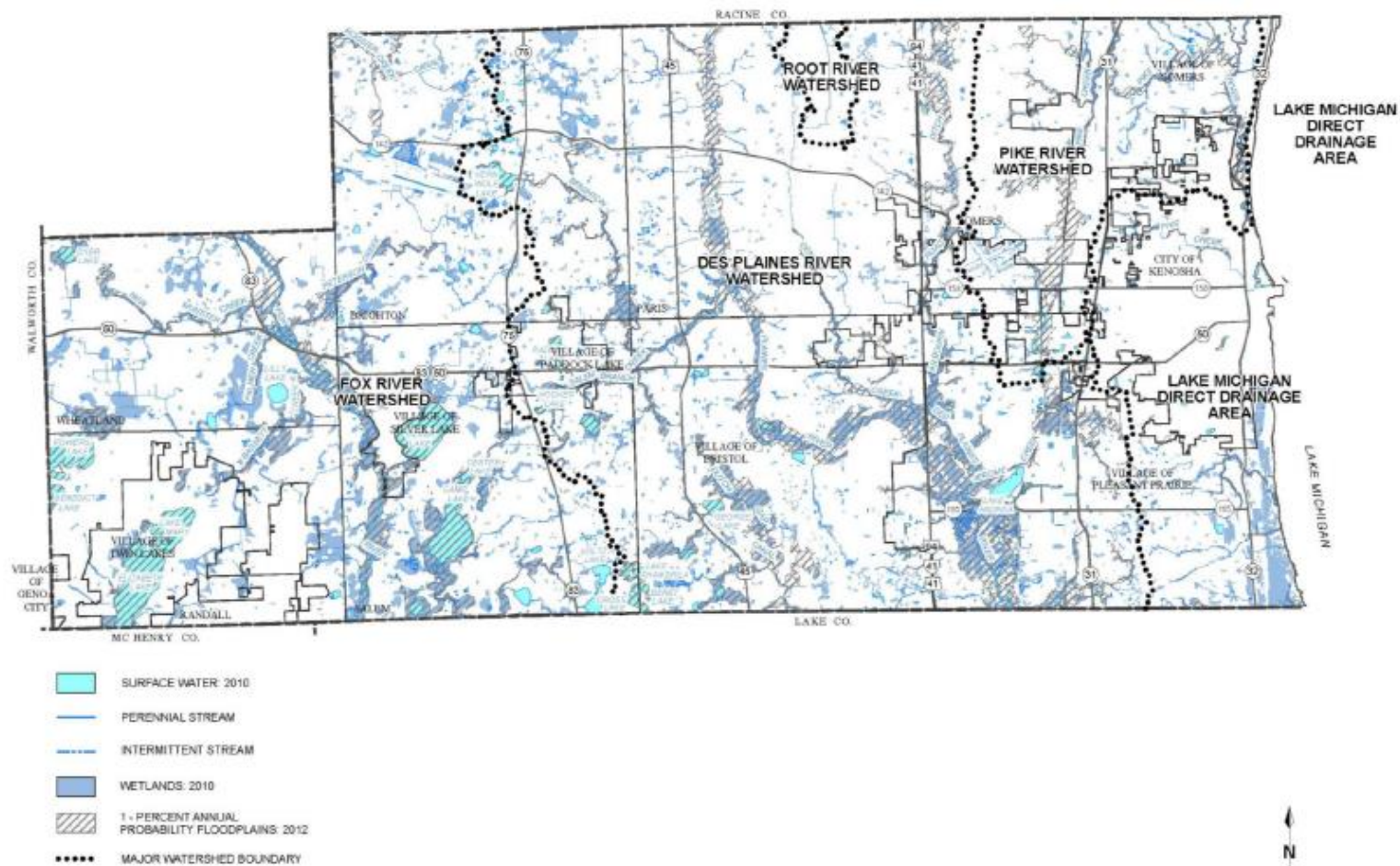
ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS IN KENOSHA COUNTY: 2010





Map II-5

SURFACE WATERS, WETLANDS, AND FLOODPLAINS IN KENOSHA COUNTY: 2015

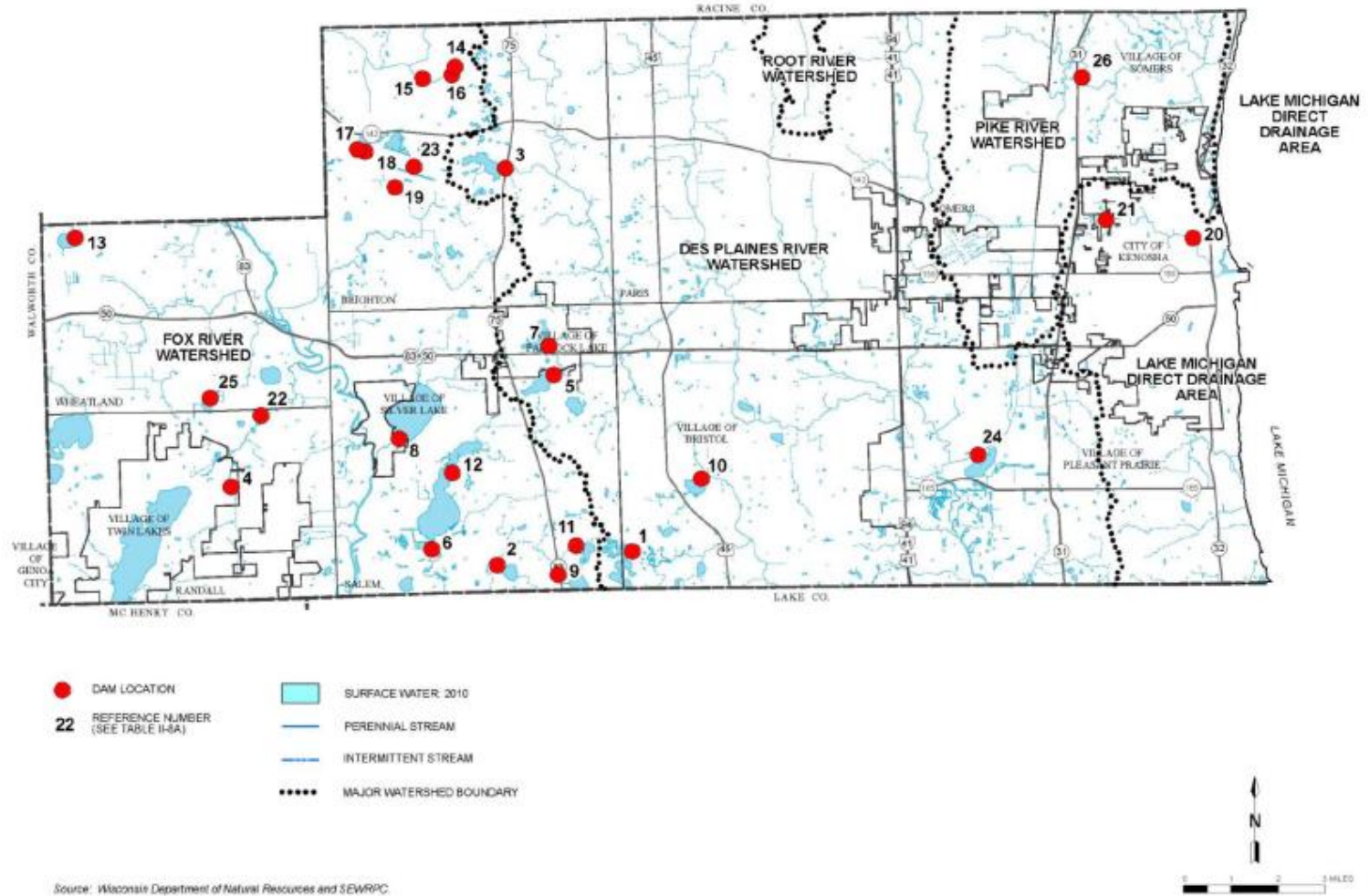


Source: Federal Emergency Management Agency and SEWRPC

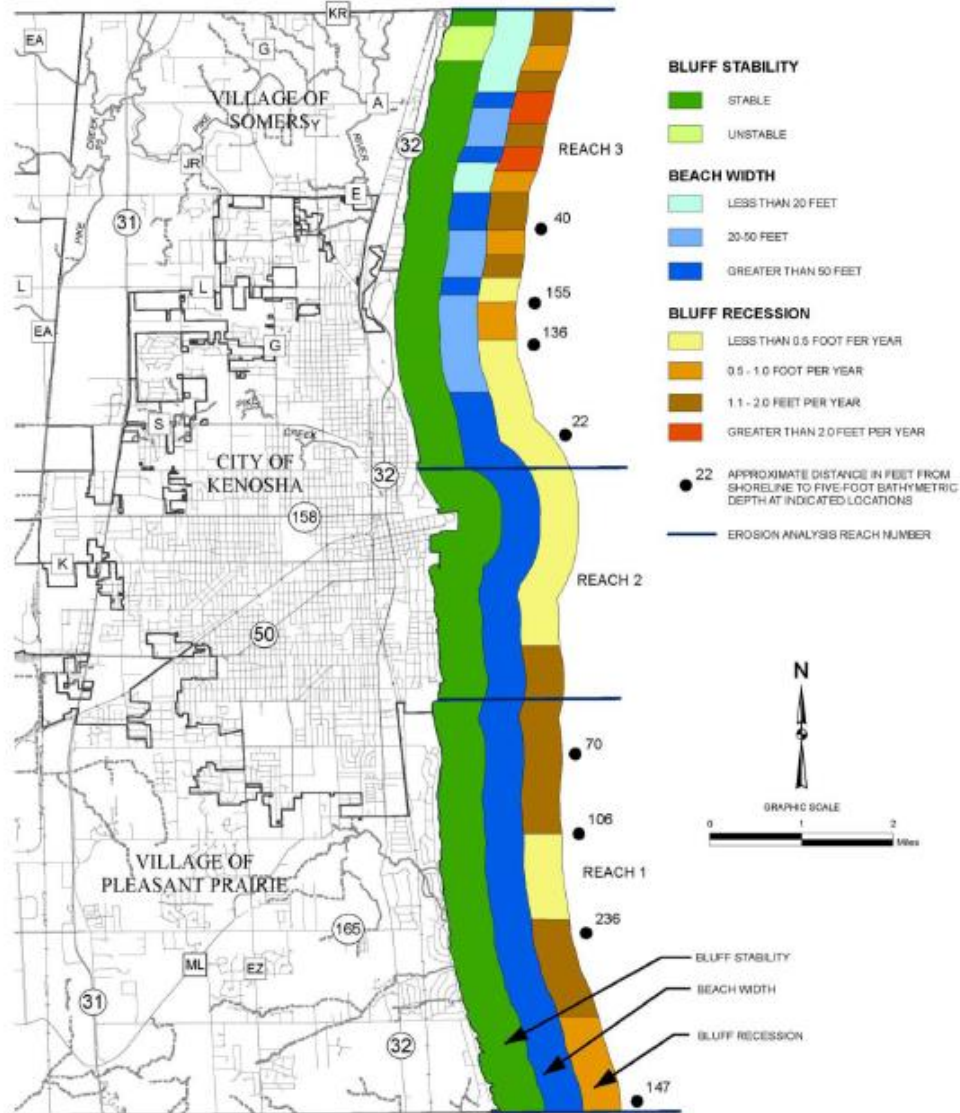


Map II-6

DAMS LOCATED WITHIN KENOSHA COUNTY: 2015



LAKE MICHIGAN SHORELINE EROSION AND BLUFF STABILITY ANALYSIS FOR KENOSHA COUNTY: 1995

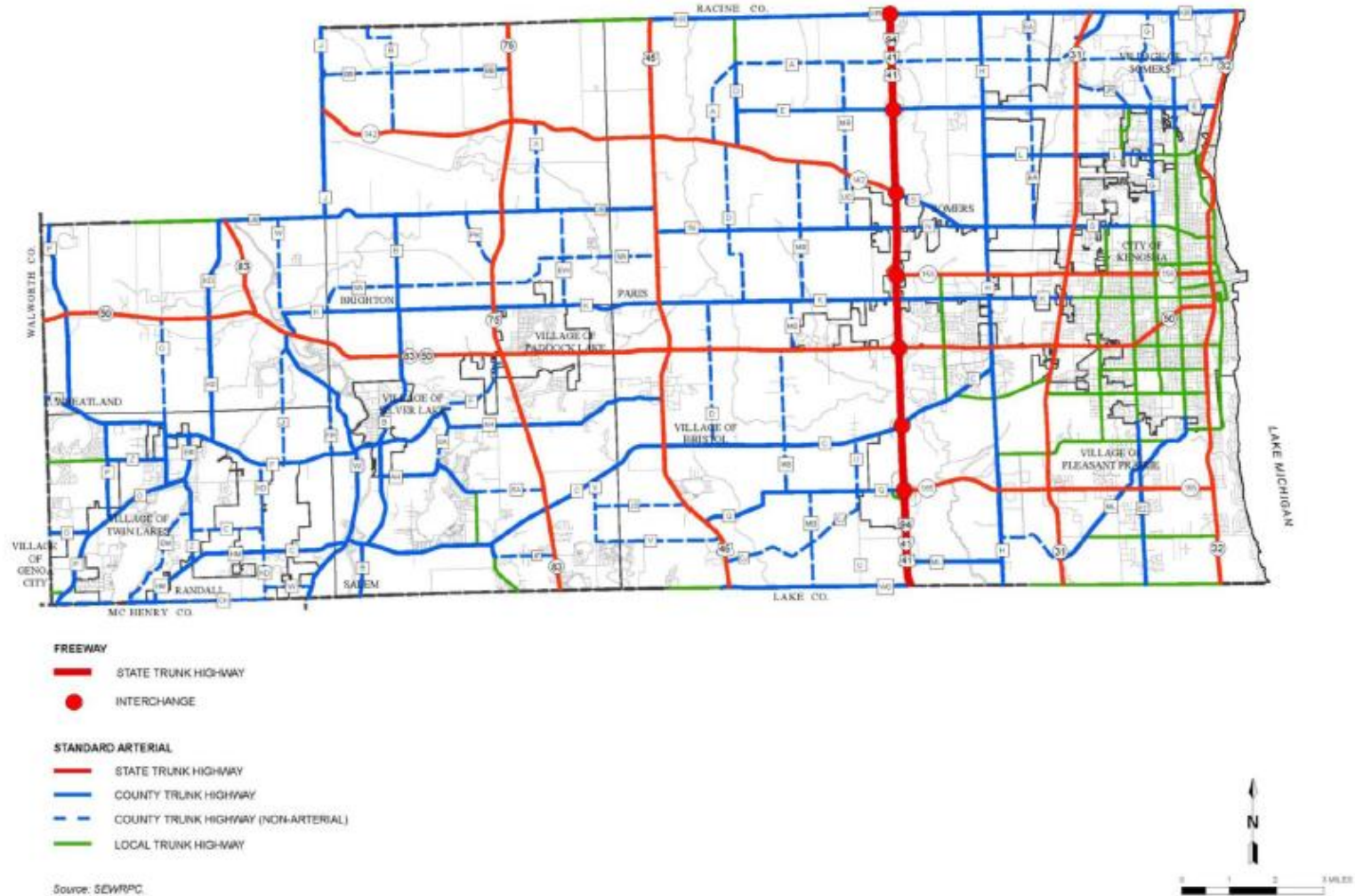


Source: T.B Edl, D.M. Mickelson, J.A. Chapman, and SEWRPC.



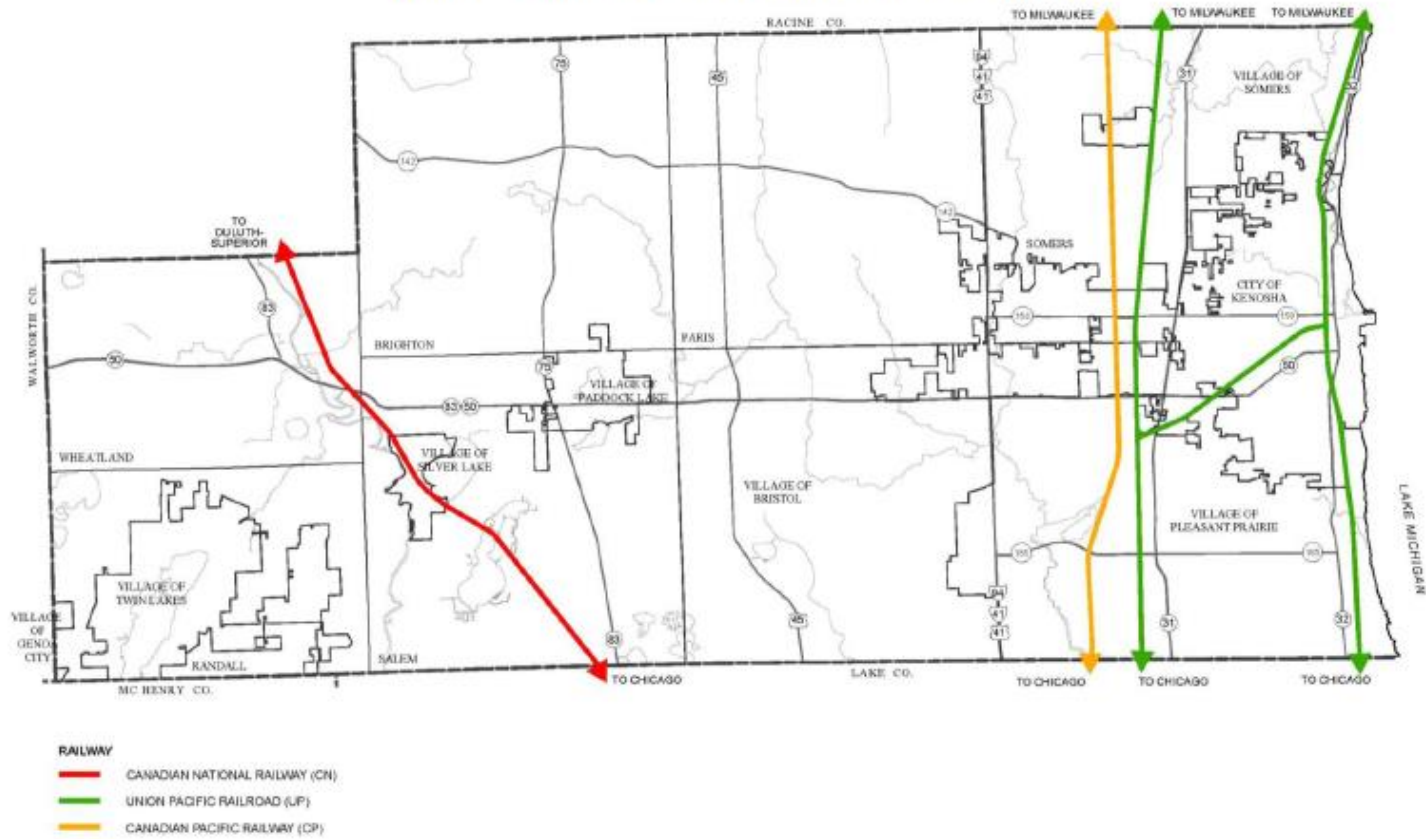
Map II-8

ARTERIAL STREETS AND HIGHWAYS IN KENOSHA COUNTY: 2015



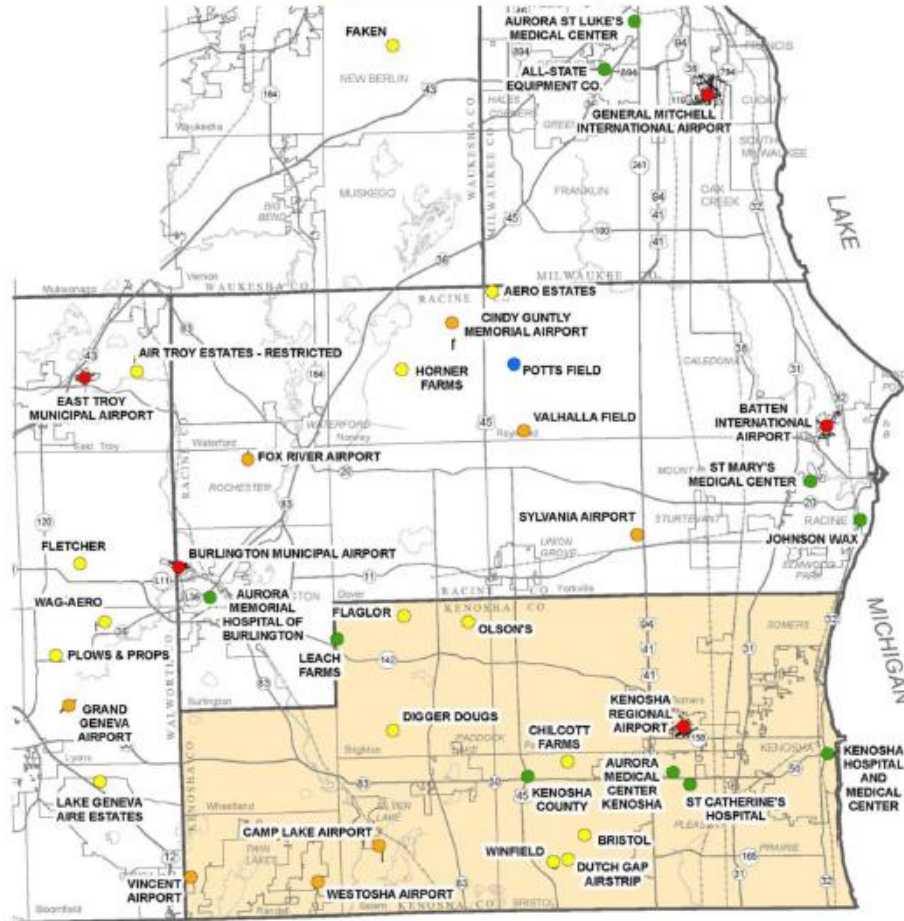
Map II-9

COMMON CARRIER RAIL FREIGHT LINES IN KENOSHA COUNTY: 2015



Source: Wisconsin Department of Transportation and SEWRPC.

EXISTING AIRPORTS IN KENOSHA COUNTY AND VICINITY: 2015



- PUBLIC-USE AIRPORT - PUBLIC OWNERSHIP
- PUBLIC-USE AIRPORT - PRIVATE OWNERSHIP
- PRIVATE-USE AIRPORT - PRIVATE OWNERSHIP
- PRIVATE-USE HELIPORT - PRIVATE OWNERSHIP
- PRIVATE-USE ULTRALIGHT - PRIVATE OWNERSHIP

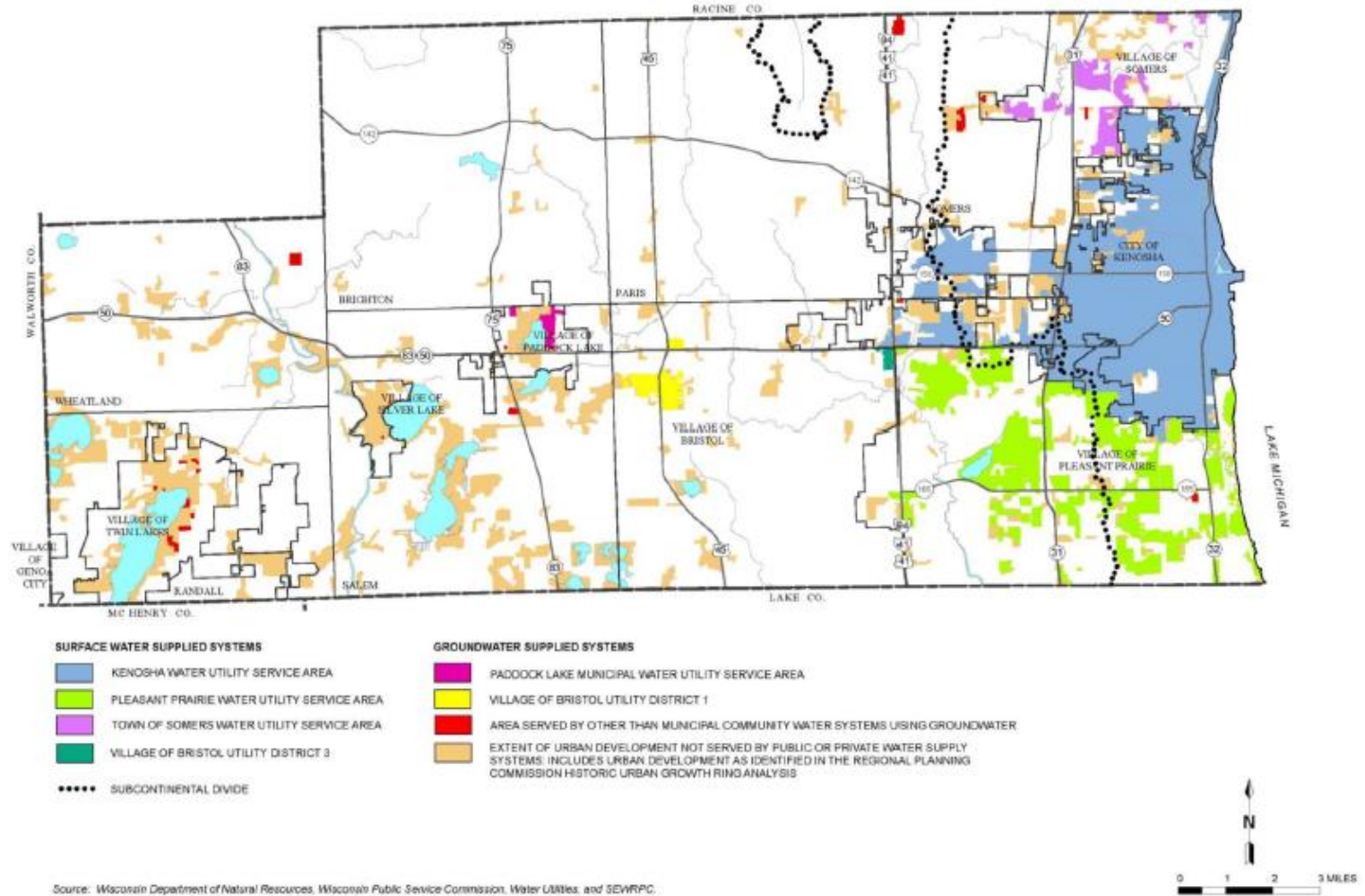
Source: Wisconsin Bureau of Aeronautics and SEWRPC.





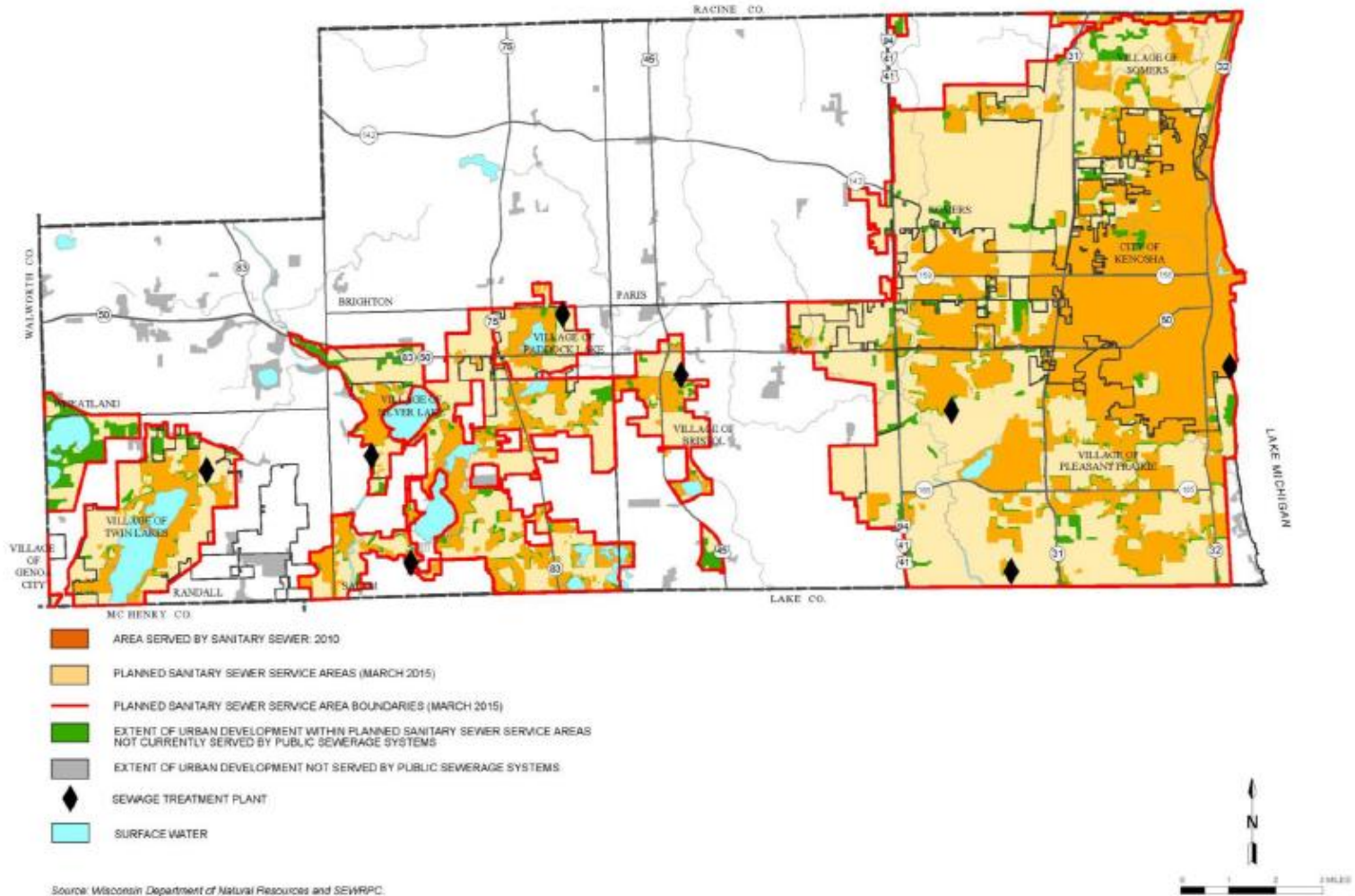
Map II-11

AREAS SERVED BY PUBLIC AND PRIVATE WATER SUPPLY IN KENOSHA COUNTY: 2015



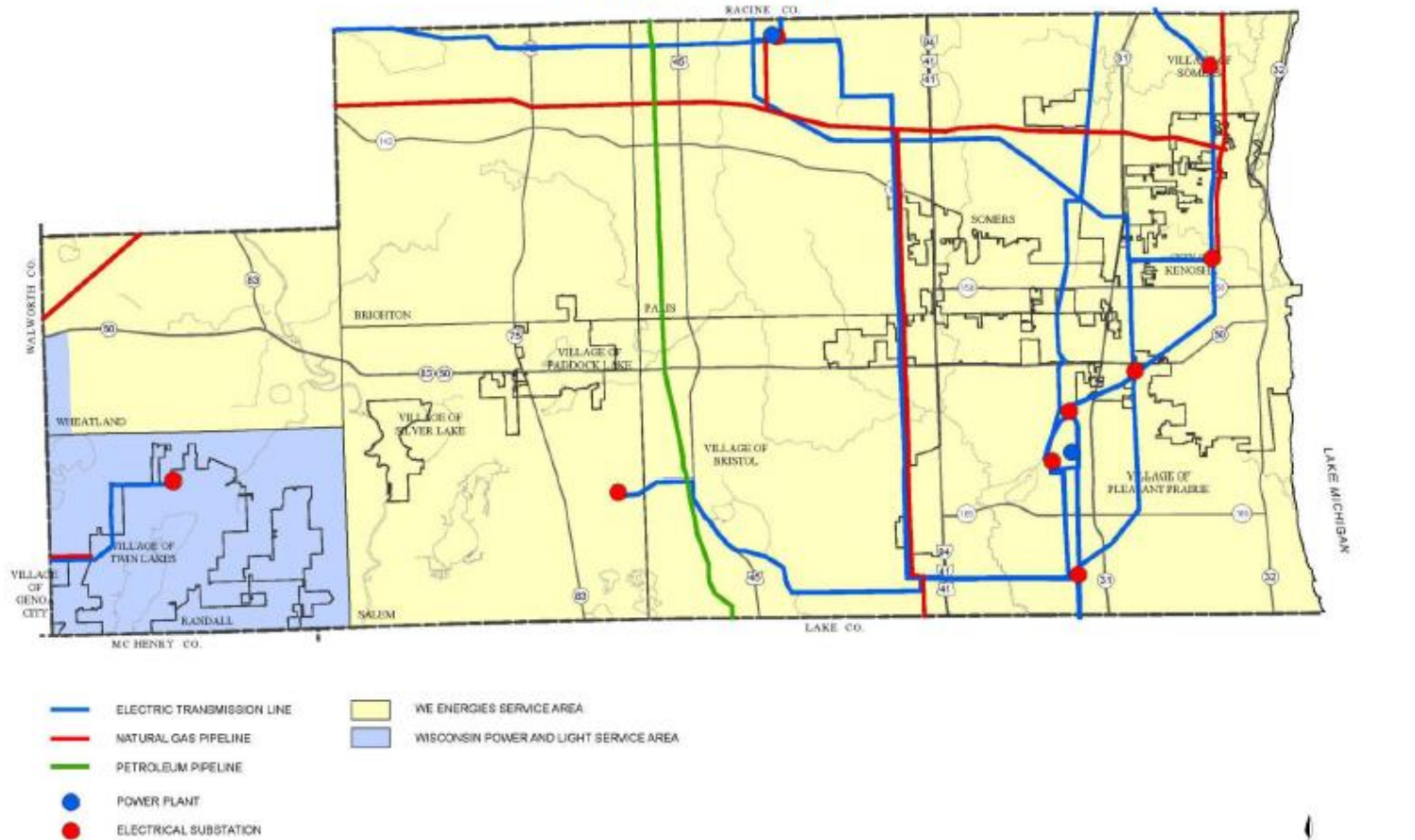
Map II-12

PLANNED SANITARY SEWER SERVICE AREAS AND AREAS SERVED BY SEWER IN KENOSHA COUNTY



Map II-13

ELECTRIC SERVICE PROVIDERS, ELECTRIC TRANSMISSION LINES, NATURAL GAS PIPELINES, AND PETROLEUM PIPELINES  
IN KENOSHA COUNTY: 2015



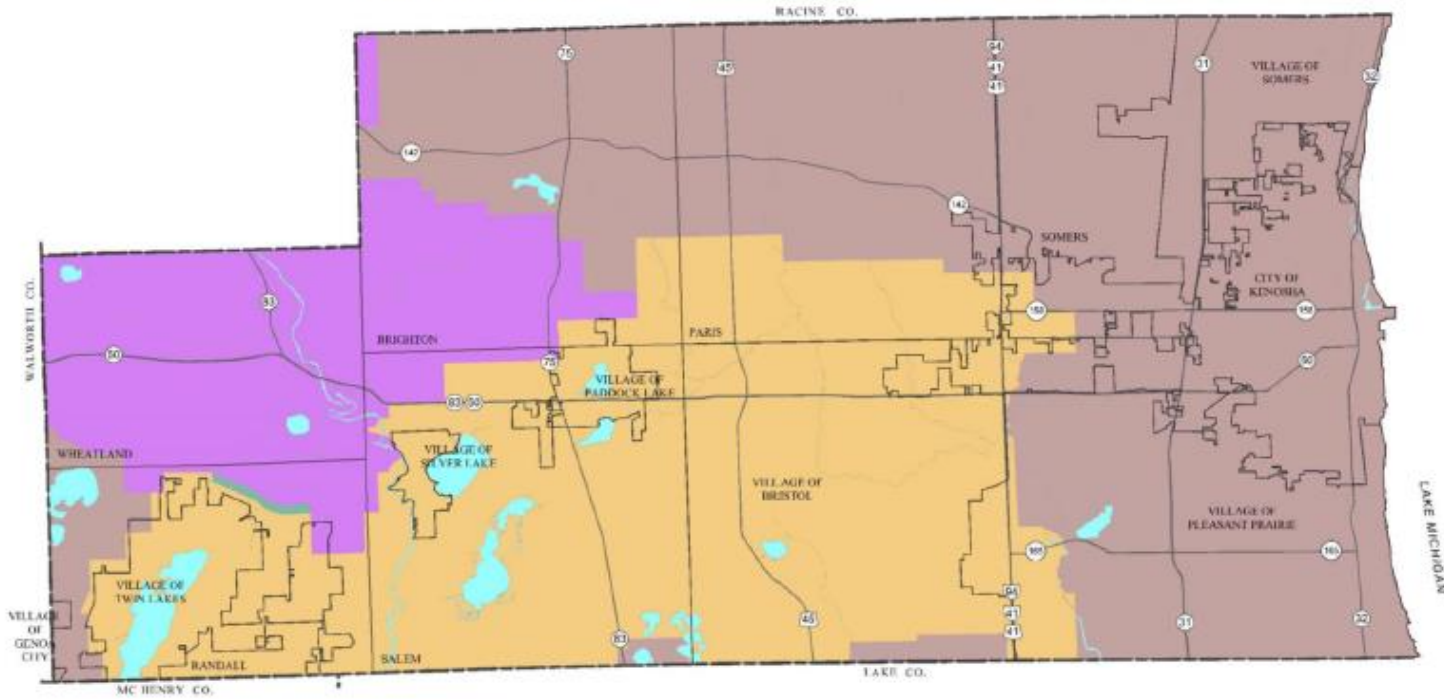
Source: Public Service Commission of Wisconsin and SEWRPC.

PRELIMINARY DRAFT



Map II-14

TELEPHONE EXCHANGE CARRIER SERVICE AREAS IN KENOSHA COUNTY: 2011



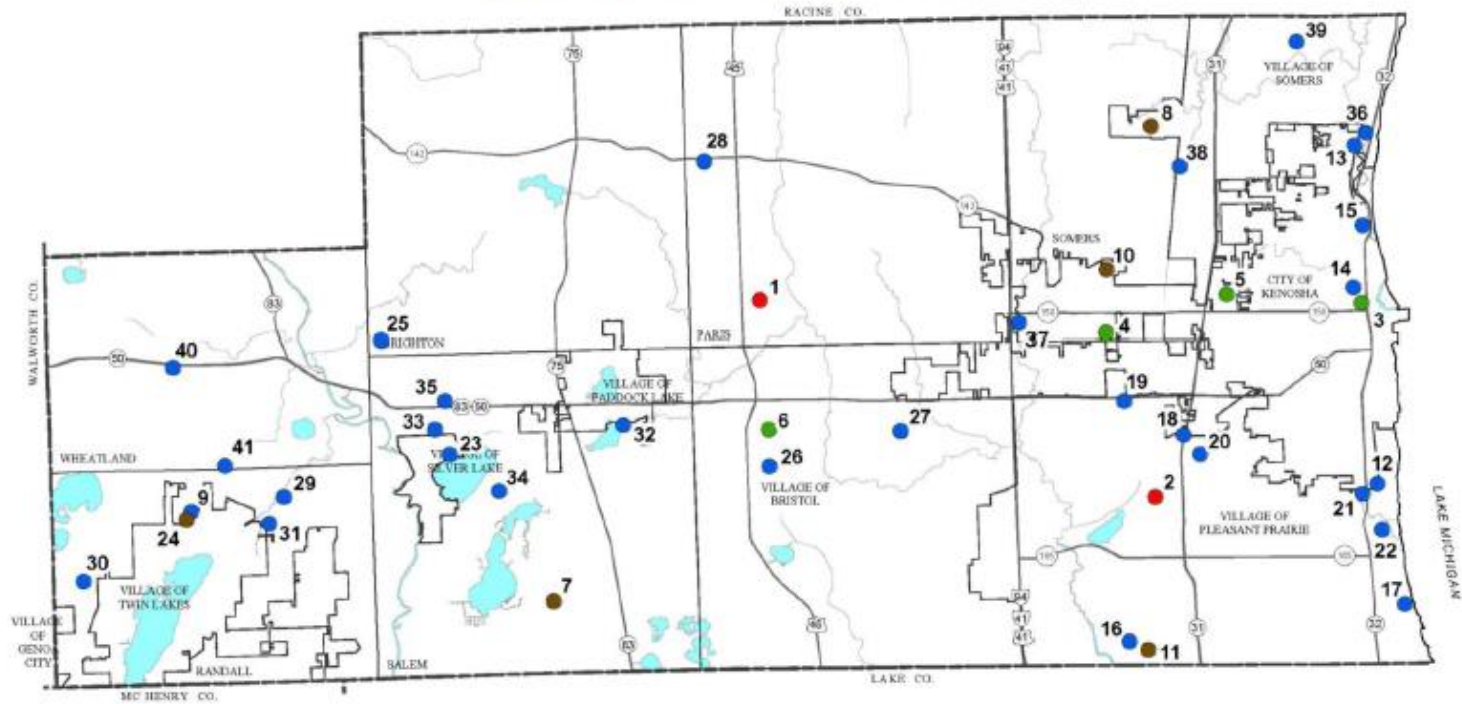
- TELEPHONE EXCHANGE CARRIER SERVICE AREAS**
- AT & T
  - FRONTIER COMMUNICATIONS COMPANY OF WISCONSIN
  - TELEPHONE AND DATA SYSTEMS, INC.
  - OPEN TERRITORY

Source: Wisconsin Public Service Commission and SEWRPC.



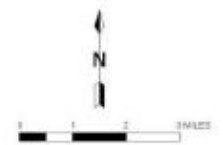
Map II-15

SOLID WASTE DISPOSAL SITES IN KENOSHA COUNTY: 2015



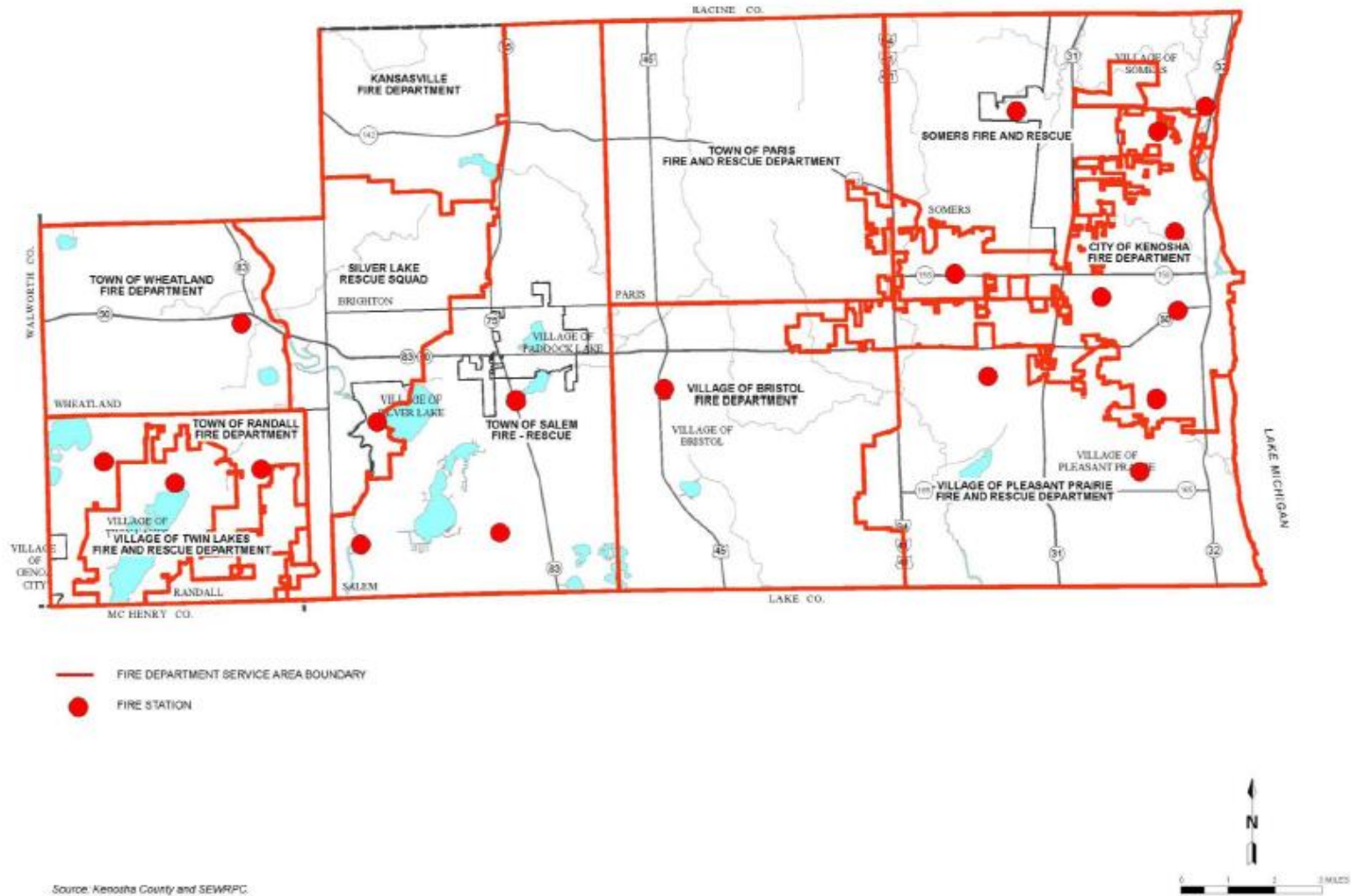
- ACTIVE LANDFILL
- INACTIVE LANDFILL
- COMPOST SITE
- RECYCLING CENTER, TRANSFER FACILITY, OR STORAGE FACILITY
- 31** REFERENCE NUMBER (SEE APPENDIX B)

Source: Wisconsin Department of Natural Resources, Kenosha County, and SEH/PPC.



Map II-16

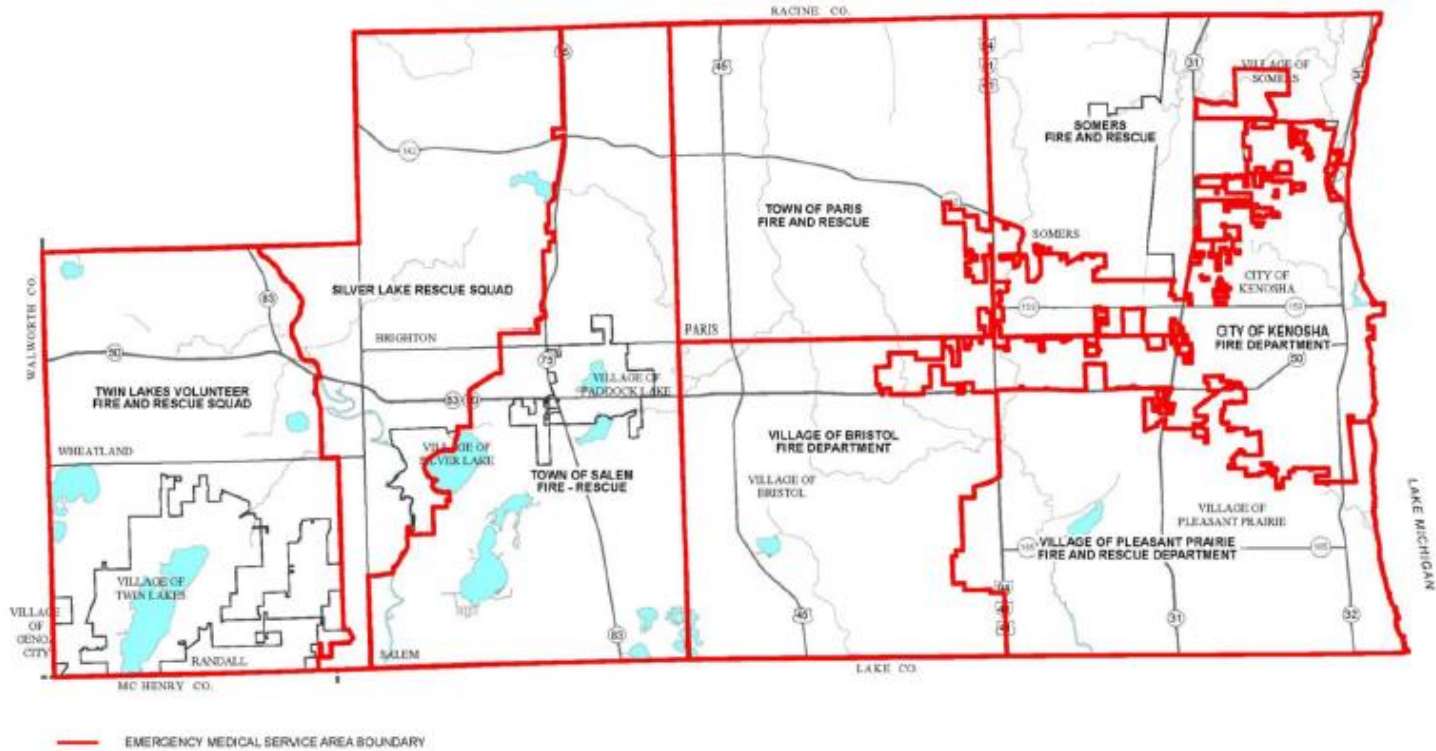
FIRE STATIONS AND FIRE DEPARTMENT SERVICE AREA BOUNDARIES IN KENOSHA COUNTY: 2015





Map II-17

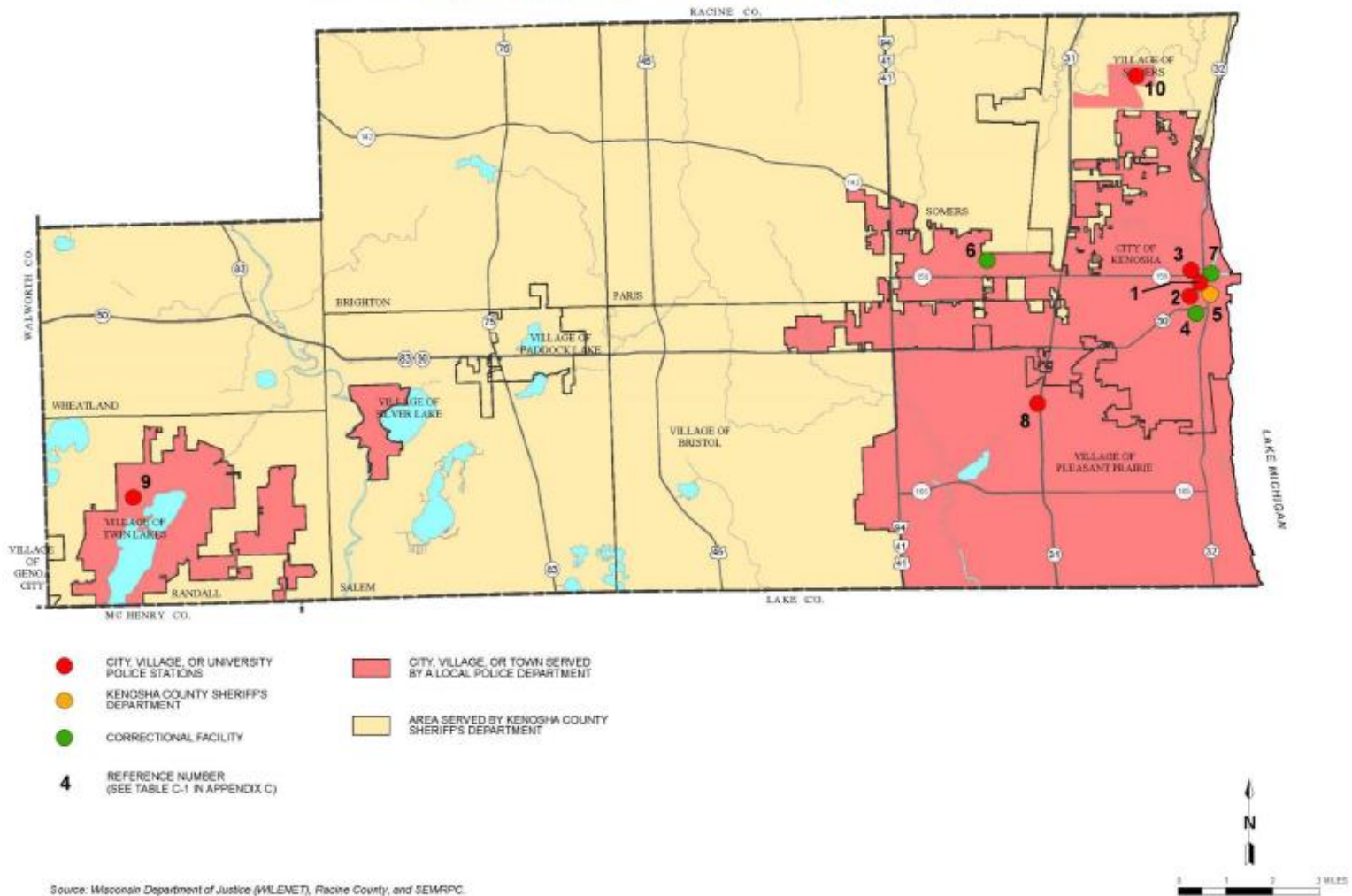
EMERGENCY MEDICAL SERVICE AREAS IN KENOSHA COUNTY: 2015



Source: Kenosha County and SEWRPC.

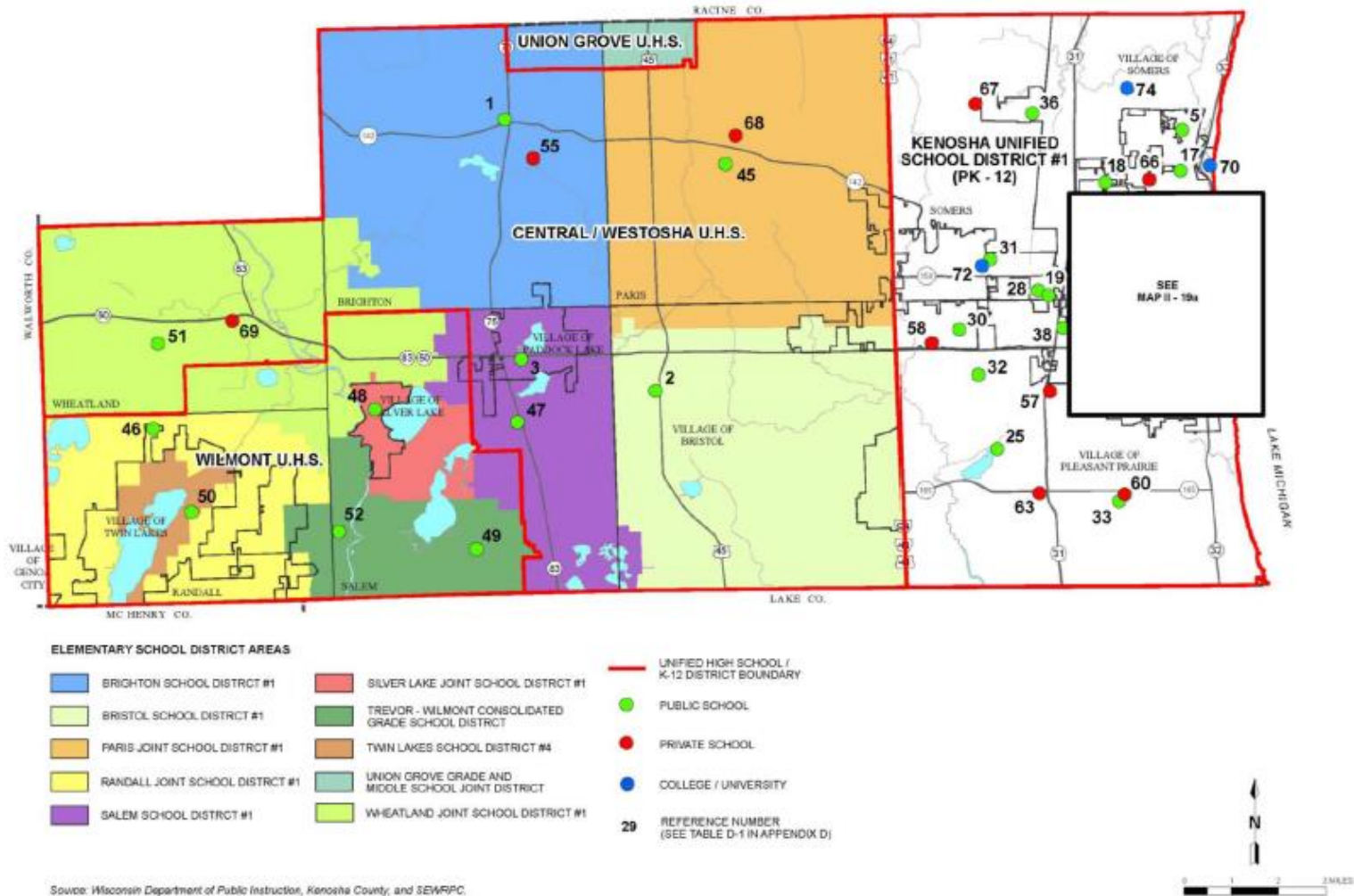
Map II-18

LAW ENFORCEMENT STATIONS AND SERVICE AREAS IN KENOSHA COUNTY: 2015



Map II-19

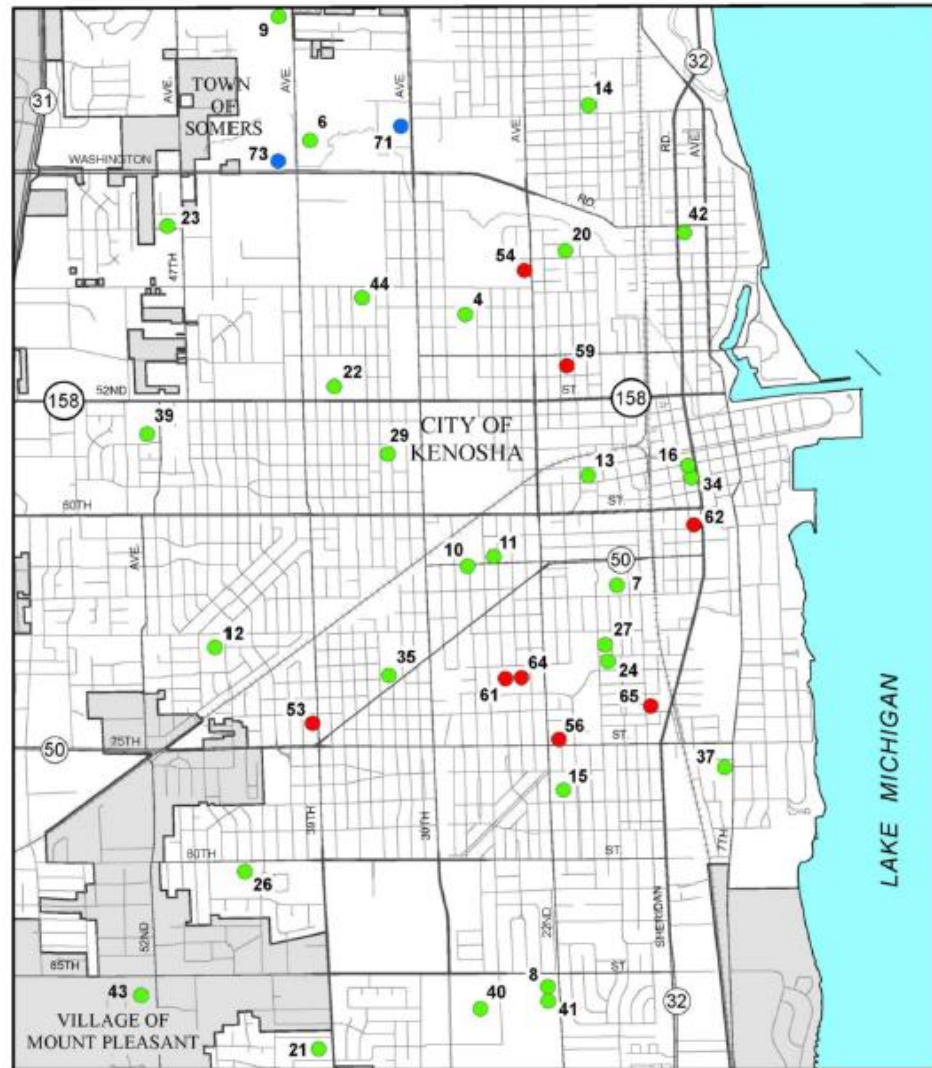
PUBLIC SCHOOL DISTRICTS, PUBLIC AND PRIVATE SCHOOLS, COLLEGES, AND UNIVERSITIES IN KENOSHA COUNTY: 2015



Source: Wisconsin Department of Public Instruction, Kenosha County, and SEWRPC

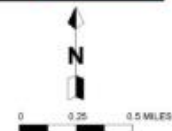


PUBLIC SCHOOL DISTRICTS, PUBLIC AND PRIVATE SCHOOLS, COLLEGES, AND UNIVERSITIES IN THE CITY OF KENOSHA: 2015



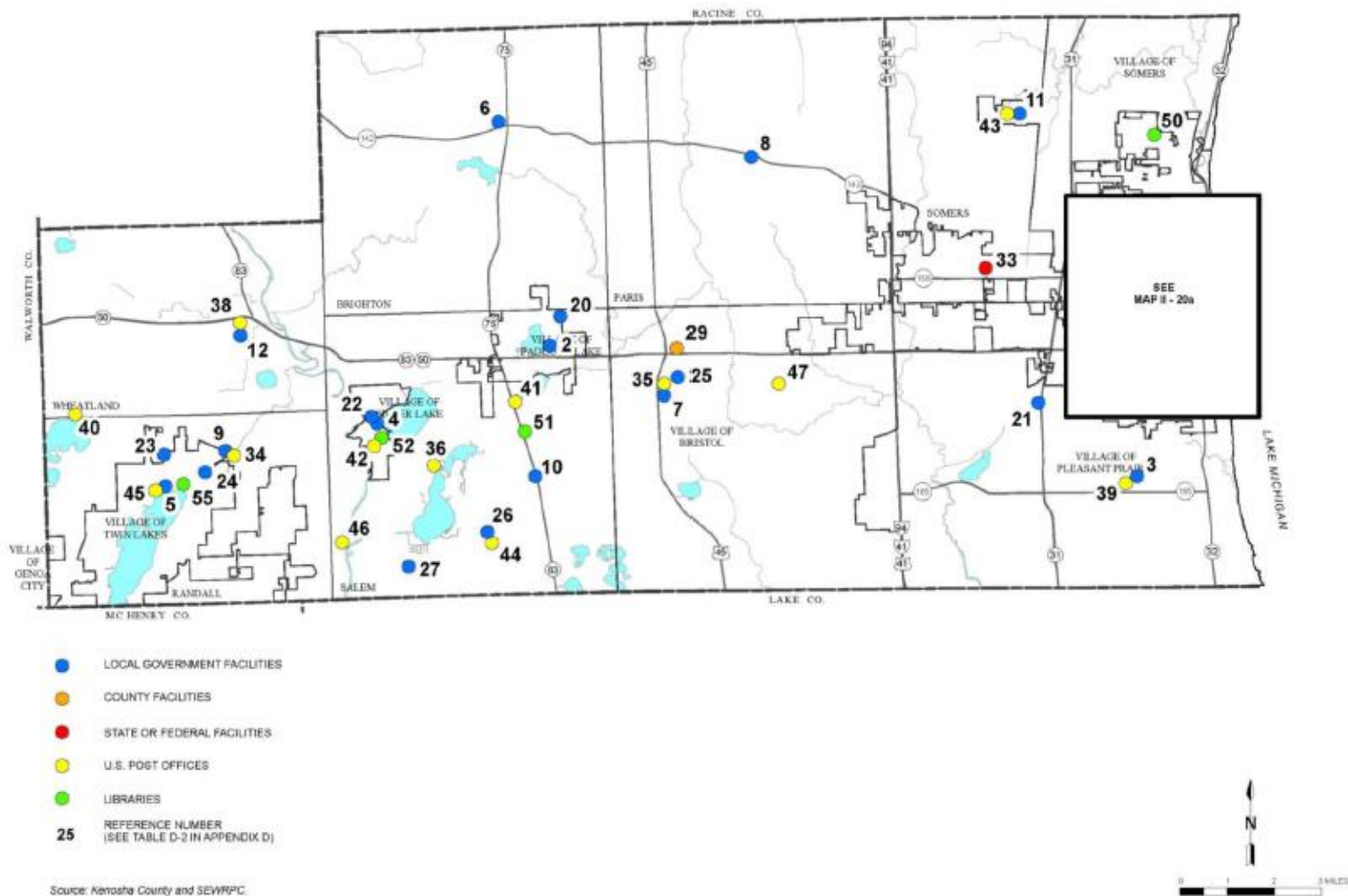
- PUBLIC SCHOOL
  - PRIVATE SCHOOL
  - COLLEGE / UNIVERSITY
- 37 REFERENCE NUMBER (SEE TABLE D-1 IN APPENDIX D)

Source: Wisconsin Department of Public Instruction, Kenosha County, and SEWRPC.

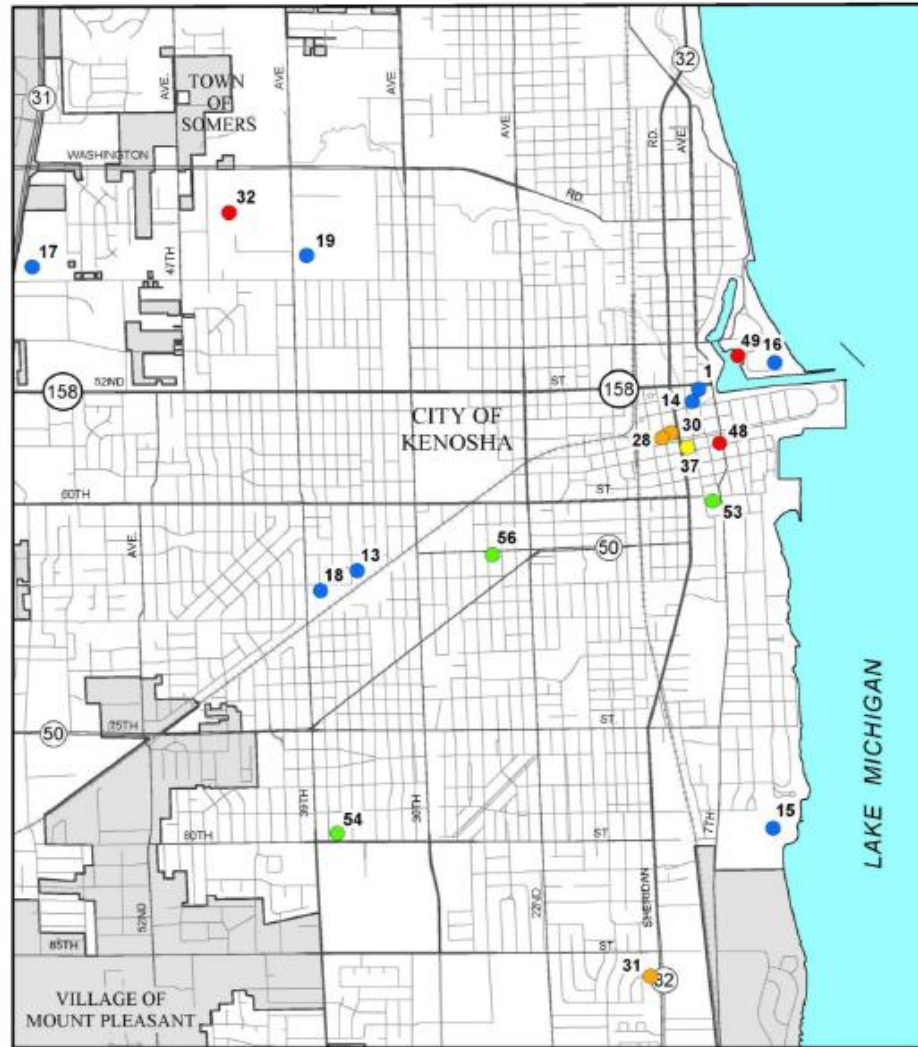


Map II-20

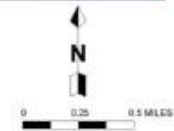
SELECTED GOVERNMENT ADMINISTRATION BUILDINGS IN KENOSHA COUNTY: 2015



SELECTED GOVERNMENT ADMINISTRATION BUILDINGS IN THE CITY OF KENOSHA: 2015



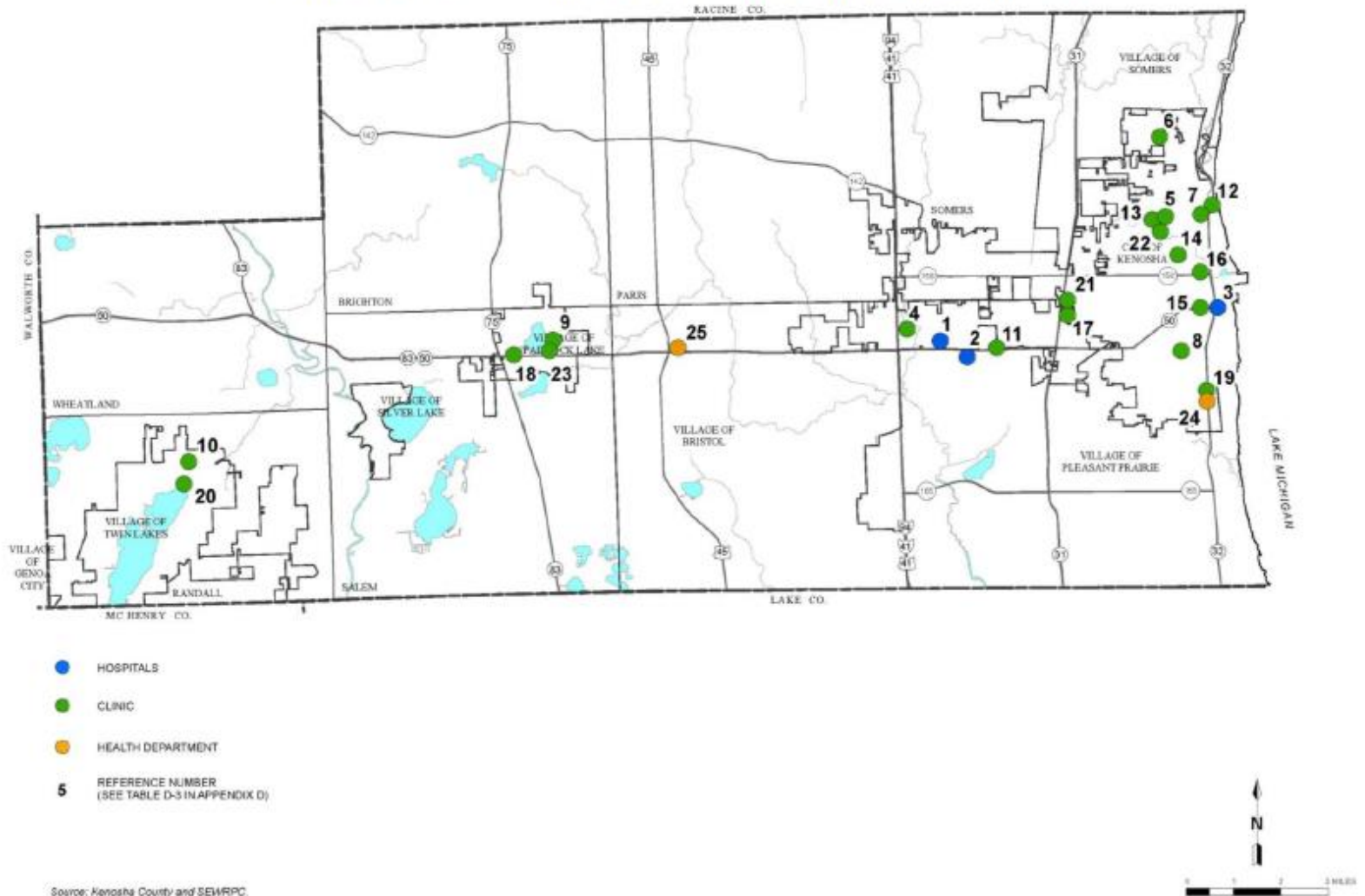
- LOCAL GOVERNMENT FACILITIES
  - COUNTY FACILITIES
  - STATE OR FEDERAL FACILITIES
  - U.S. POST OFFICES
  - LIBRARIES
- 56** REFERENCE NUMBER (SEE TABLE D-2 IN APPENDIX D)  
 Source: Kenosha County and SEWRPC





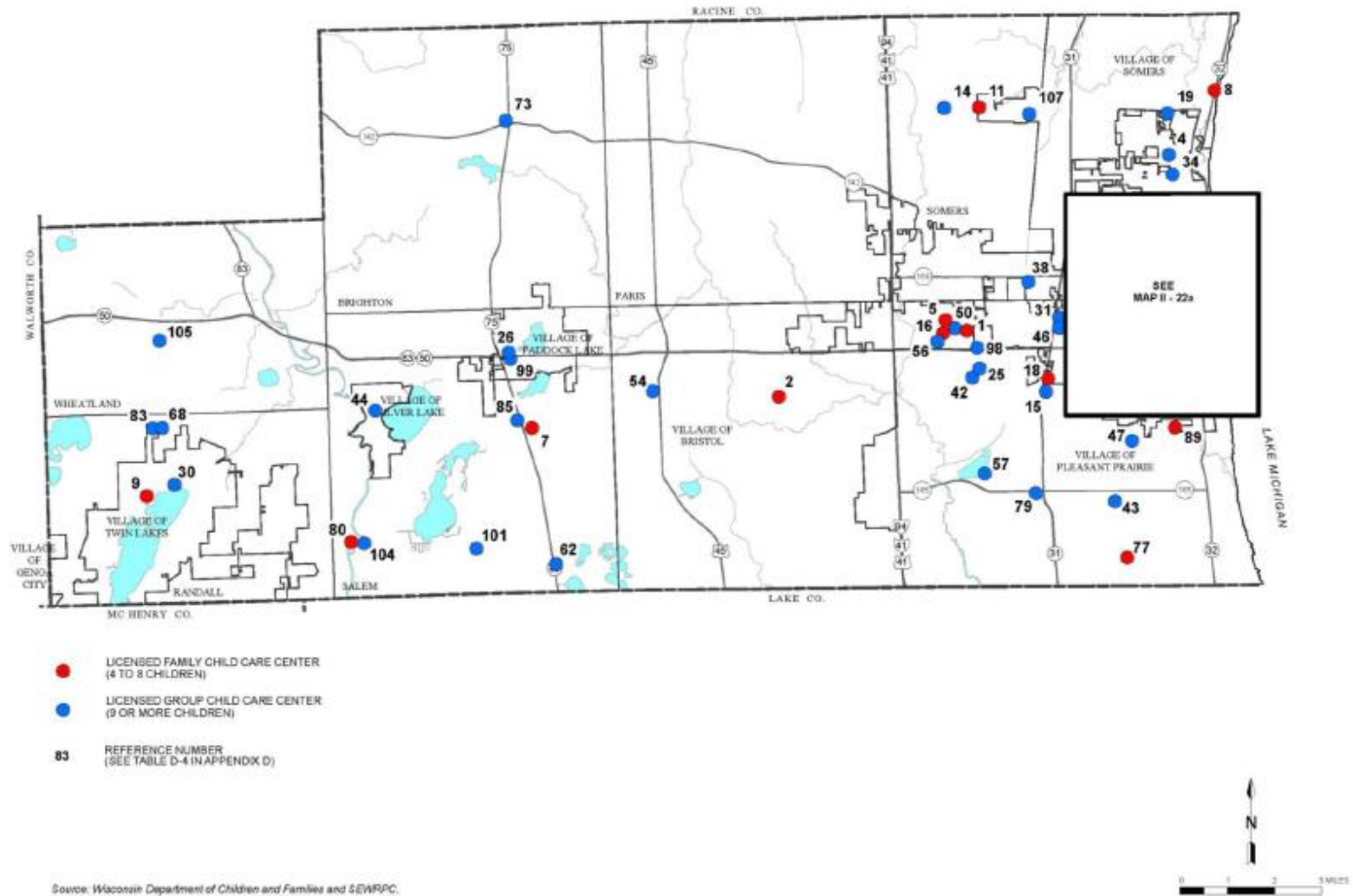
Map II-21

HOSPITALS, MAJOR CLINICS, AND HEALTH DEPARTMENTS IN KENOSHA COUNTY: 2015



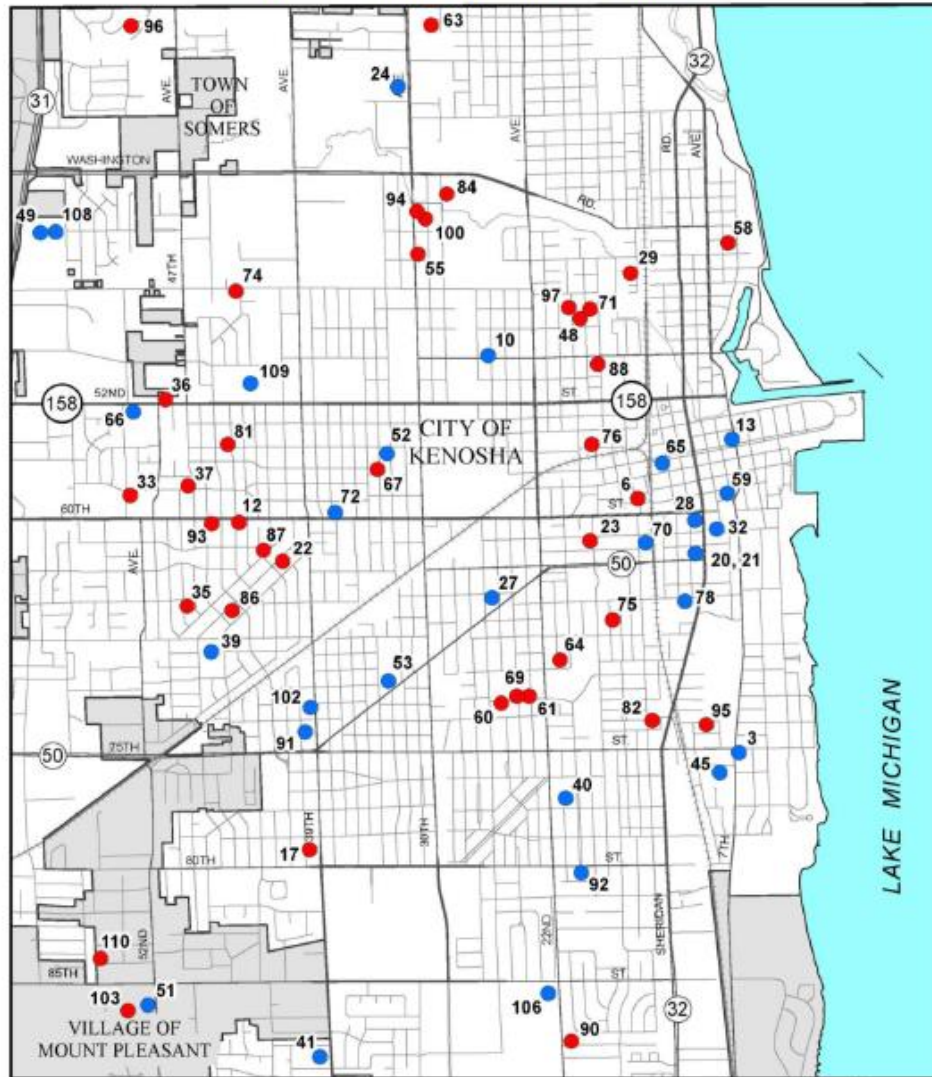
Map II-22

CHILD CARE CENTERS IN KENOSHA COUNTY: 2015



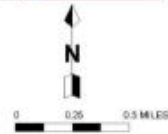
Source: Wisconsin Department of Children and Families and SEWRPC.

CHILD CARE CENTERS IN THE CITY OF KENOSHA: 2015



- LICENSED FAMILY CHILD CARE CENTER (4 TO 8 CHILDREN)
- LICENSED GROUP CHILD CARE CENTER (9 OR MORE CHILDREN)
- 37** REFERENCE NUMBER (SEE TABLE D-4 IN APPENDIX D)

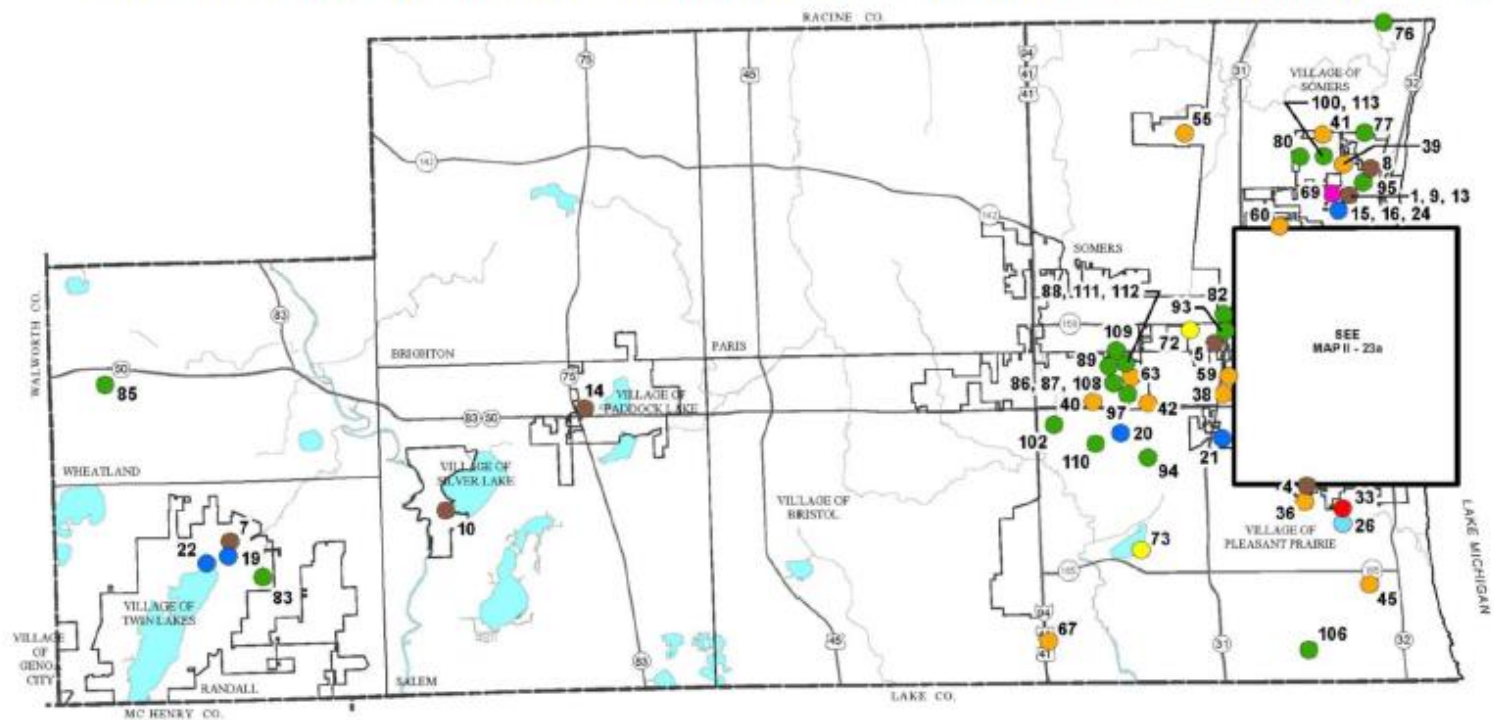
Source: Wisconsin Department of Children and Families and SEWRPC





### Map II-23

## NURSING HOMES, ASSISTED LIVING FACILITIES, INDEPENDENT HOUSING, AND SENIOR APARTMENTS IN KENOSHA COUNTY: 2015



- NURSING HOME
- COMMUNITY BASED RESIDENTIAL FACILITY
- ADULT FAMILY HOME
- ADULT DAY CARE FACILITY
- APARTMENTS FOR SENIORS OR PERSONS WITH DISABILITIES
- AFFORDABLE HOUSING FOR OLDER ADULTS
- DESIGNATED SENIOR APARTMENTS
- RESIDENTIAL CARE APARTMENT COMPLEX

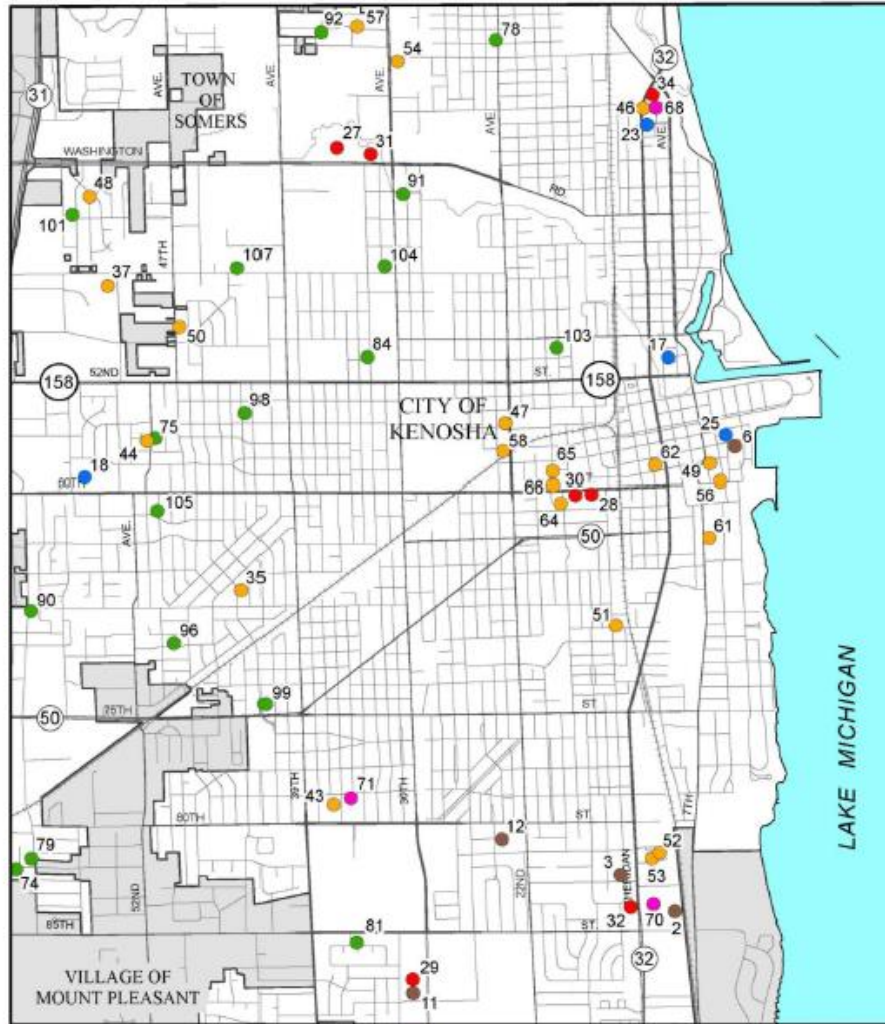
82 REFERENCE NUMBER  
(SEE TABLE D-5 IN APPENDIX D)

Source: Kenosha and SEWRPC.



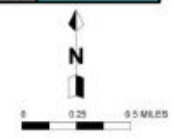
Map II-23a

NURSING HOMES, ASSISTED LIVING FACILITIES, INDEPENDENT HOUSING, AND SENIOR APARTMENTS IN THE CITY OF KENOSHA: 2015



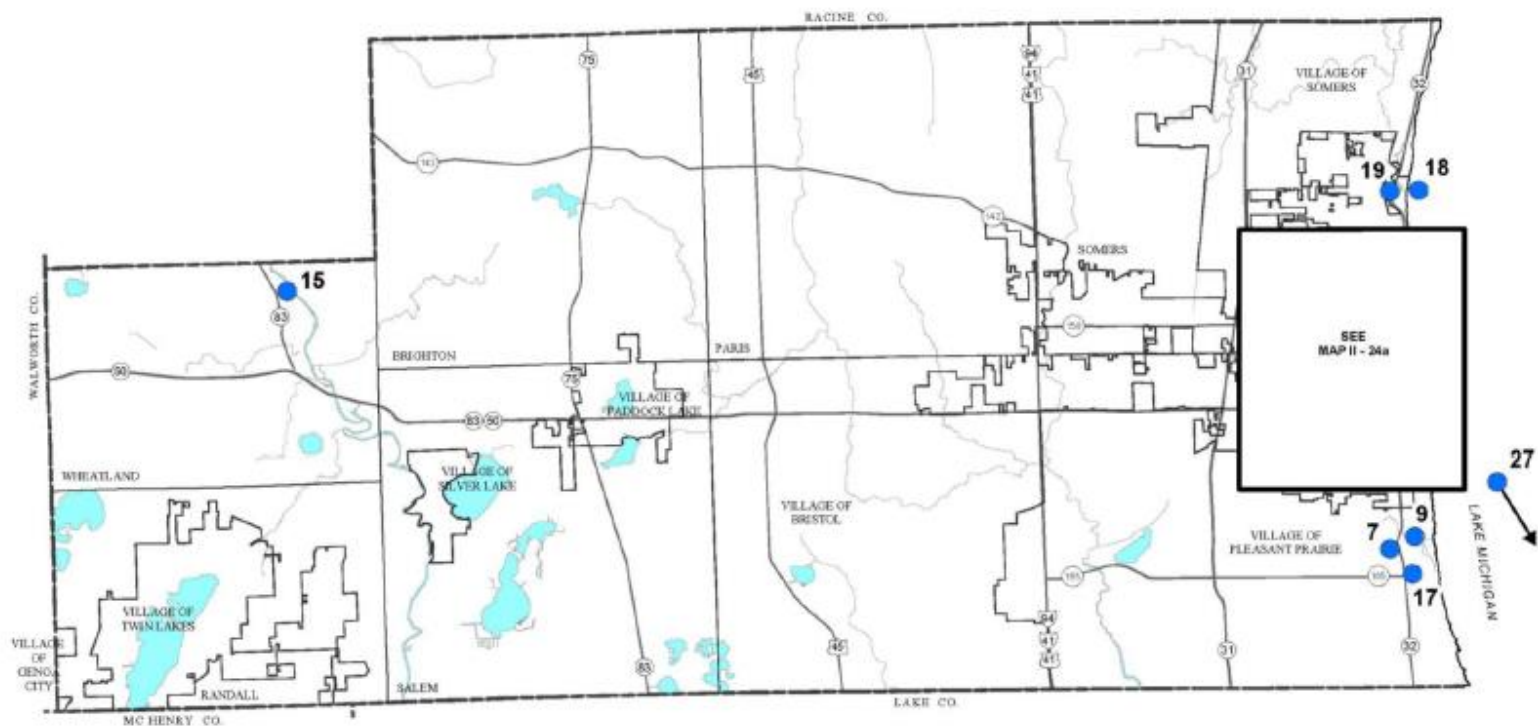
- NURSING HOME
- COMMUNITY-BASED RESIDENTIAL FACILITY
- ADULT FAMILY HOME
- APARTMENTS FOR SENIORS OR PERSONS WITH DISABILITIES
- AFFORDABLE HOUSING FOR OLDER ADULTS
- RESIDENTIAL CARE APARTMENT COMPLEX
- 81** REFERENCE NUMBER (SEE TABLE V-13)

Source: Kenosha County and SEWRPC



Map II-24

HISTORIC SITES LISTED ON THE NATIONAL OR STATE REGISTERS OF HISTORIC PLACES IN KENOSHA COUNTY: 2015



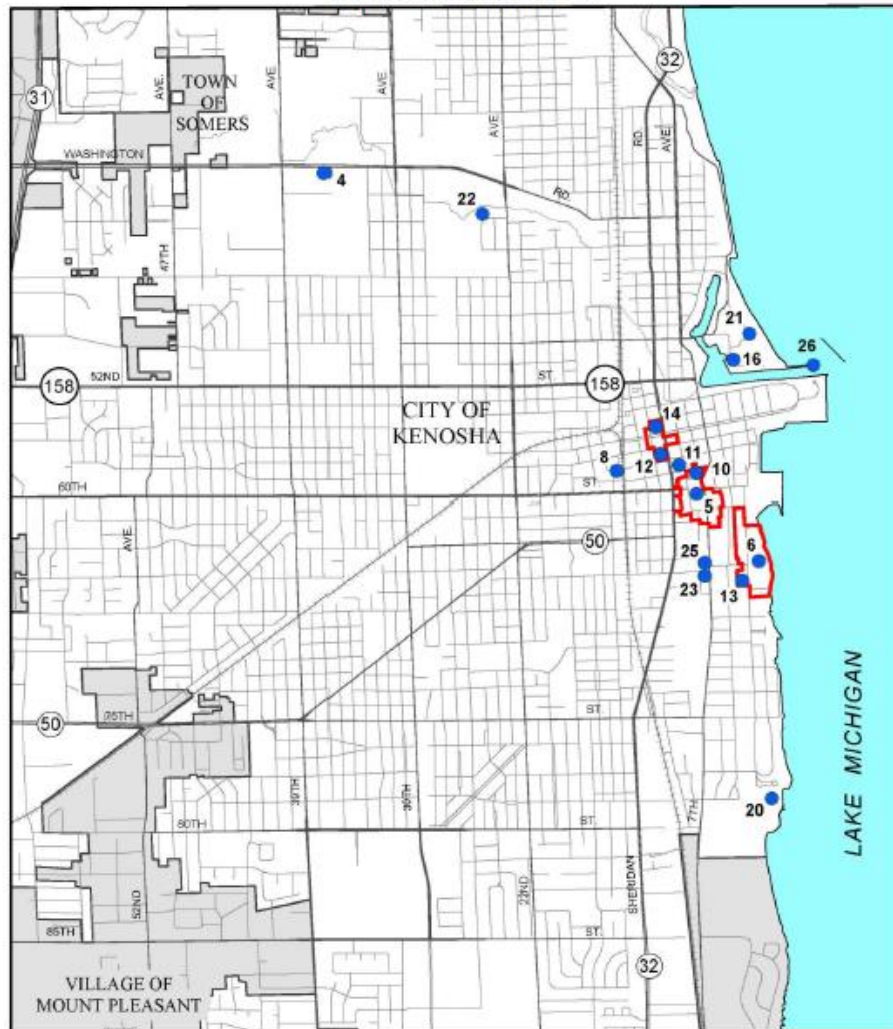
- NATIONAL OR STATE HISTORIC SITE
- 17** REFERENCE NUMBER  
(SEE TABLE II-13)

Source: State Historical Society of Wisconsin and SEWRPC.



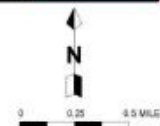


HISTORIC SITES LISTED ON THE NATIONAL OR STATE REGISTERS OF HISTORIC PLACES  
IN THE CITY OF KENOSHA: 2015



- NATIONAL OR STATE HISTORIC SITE
- ▭ HISTORIC DISTRICT BOUNDARY
- 22 REFERENCE NUMBER  
(SEE TABLE II-13)

Source: State Historical Society of Wisconsin and SEWRPC.



# Hazard and Vulnerability Assessment Tool

Attachment 3  
HAZARD AND VULNERABILITY ASSESSMENT TOOL  
KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE

| EVENT                                                                                                                                                                              | PROBABILITY<br>Likelihood This Will Occur      | SEVERITY • (MAGNITUDE - MITIGATION)            |                                                |                                                        | PREPAREDNESS<br>Familiarity                            | RISK<br>Relative Threat* |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------|
|                                                                                                                                                                                    |                                                | HUMAN IMPACT<br>Possibility of Death or Injury | PROPERTY IMPACT<br>Physical Losses and Damages | BUSINESS AND AGENCY IMPACT<br>Interruption of Services |                                                        |                          |
| SCORE                                                                                                                                                                              | 0 = N/A<br>1 = Low<br>2 = Moderate<br>3 = High | 0 = N/A<br>1 = Low<br>2 = Moderate<br>3 = High | 0 = N/A<br>1 = Low<br>2 = Moderate<br>3 = High | 0 = N/A<br>1 = Low<br>2 = Moderate<br>3 = High         | 0 = N/A<br>1 = High<br>2 = Moderate<br>3 = Low or none | 0 - 100%                 |
| A1. Riverine flooding                                                                                                                                                              |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A2. Stormwater flooding                                                                                                                                                            |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A3. Lake flooding                                                                                                                                                                  |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A4. Tornado                                                                                                                                                                        |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A5. Earthquake                                                                                                                                                                     |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A6. Thunderstorm                                                                                                                                                                   |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A7. High straight-line wind                                                                                                                                                        |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A8. Lightning                                                                                                                                                                      |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A9. Hail                                                                                                                                                                           |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A10. Heavy snow storm                                                                                                                                                              |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A11. Blizzard                                                                                                                                                                      |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A12. Ice storm                                                                                                                                                                     |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A13. Extreme cold                                                                                                                                                                  |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A14. Extreme heat                                                                                                                                                                  |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A15. Drought                                                                                                                                                                       |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A16. Fog                                                                                                                                                                           |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A17. Dust storm                                                                                                                                                                    |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| A18. Lake Michigan Erosion                                                                                                                                                         |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| B1. Contamination or loss of water supply system                                                                                                                                   |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| B2. Loss of sewerage system                                                                                                                                                        |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| B3. Loss of telecommunication                                                                                                                                                      |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| B4. Electrical system outage                                                                                                                                                       |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| B5. Computer system incident/cyber attack                                                                                                                                          |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| C1. Hazardous materials/railroad incidents                                                                                                                                         |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| C2. Hazardous materials/roadway incidents                                                                                                                                          |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| C3. Hazardous materials/pipeline incidents                                                                                                                                         |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| C4. Hazardous materials/food facility incidents (industries, bulk fuel storage sites, grain elevators, agricultural chemical storage, and explosives, including fireworks storage) |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| D1. Railroad transportation accidents                                                                                                                                              |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| D2. Roadway transportation accidents                                                                                                                                               |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| D3. Aviation accidents                                                                                                                                                             |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| E1. Correctional center incidents                                                                                                                                                  |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| E2. Civil unrest                                                                                                                                                                   |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| E3. Terrorism incidents (bomb threats, hostage situations, biological incidents)                                                                                                   |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| E4. Workplace violence                                                                                                                                                             |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| E5. School violence                                                                                                                                                                |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| F1. Communicable disease outbreak or epidemic                                                                                                                                      |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| F2. Large-scale food contamination                                                                                                                                                 |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| G1. Wildfire                                                                                                                                                                       |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| G2. Large structure fires                                                                                                                                                          |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| G3. Explosions                                                                                                                                                                     |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| G4. Mass casualty incidents                                                                                                                                                        |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| G5. Building collapse or cave-in                                                                                                                                                   |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| H1. Dam failure                                                                                                                                                                    |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| H2. Landslide                                                                                                                                                                      |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| H3. Land subsidence                                                                                                                                                                |                                                |                                                |                                                |                                                        |                                                        | 0%                       |
| AVERAGE SCORE                                                                                                                                                                      | 0.00                                           | 0.00                                           | 0.00                                           | 0.00                                                   | 0.00                                                   | 0%                       |

\*Threat increases with percentage.

Source: Kaiser Permanente and SEWPPC.

RISK = PROBABILITY \* SEVERITY

0.00 0.00 0.00

Shaded hazards are profiled in the current Kenosha County hazard mitigation plan.

# Hazard and Vulnerability Assessment Tool

1. Risk assessment based determined by

$$\text{Risk} = 100 \times \left[ \frac{(\text{probability}/3) \times (\text{Human impact} + \text{Property impact} + \text{Business impact} + \text{Preparedness})}{(4 \times 3)} \right]$$

2. Percent risk (0 to 100 percent)
3. Relative measure → Higher indicates greater perceived risk
4. Interquartile range is the range of the middle half of responses
5. Smaller interquartile range indicates greater agreement among team members → used to break ties



# HVA Results – Top 10 Perceived Risks



1. Tornadoes



2. Heavy snow



3. Thunderstorms



4. Lightning



5. High straight-line wind

# HVA Results – Top 10 Perceived Risks



6. Extreme cold



7. Blizzard



8. Stormwater Flooding



9. Riverine Flooding



10. Ice Storm



# HVA Results – Other Notable Risks



## Thunderstorm-related

11. Hail



## Transportation-related

12. Roadway Accidents

## Hazard Material Incidents

14. Railroads

15. Fixed Facilities

18. Roadways

36. Pipelines



# HVA Results – Bottom Ten Perceived Risks

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| 36. Loss of sewerage system        | 41. Correctional center incidents |
| 37. Aviation accidents             | 42. Earthquake                    |
| 38. Large-scale food contamination | 43. Land subsidence               |
| 39. Dam failure                    | 44. Landslide                     |
| 40. Civil unrest                   | 45. Dust storm                    |

# Hazard Identification

- FEMA requires the plan to address natural hazards
  - Examples:
    - Drought, Flooding, Thunderstorms, Tornadoes
- The plan can also address human-induced or technological hazards
  - Examples
    - Hazardous Material Incidents, Transportation Accidents

# Damage Totals

| Hazard               | Years | Incidents | Property Damages | Crop Damages | Total Damages |
|----------------------|-------|-----------|------------------|--------------|---------------|
| Automobile Accidents | 15    | 53,241    | 910,728,500      | 0            | 910,728,500   |
| Flood                | 52    | 50        | 30,777,884       | 31,634,644   | 62,412,528    |
| Thunderstorms/Wind   | 51    | 185       | 27,534,248       | 5,021,965    | 32,556,213    |
| Tornadoes            | 51    | 13        | 25,386,789       | 0            | 25,386,789    |
| Lightning            | 51    | 16        | 18,201,588       | 0            | 18,201,588    |
| Railway Accidents    | 40    | 212       | 4,780,633        | 0            | 4,780,633     |
| Drought              | 25    | 17        | 0                | 3,757,011    | 3,757,011     |
| Pipeline Hazmat      | 39    | 5         | 3,018,699        | 0            | 3,018,699     |
| Hail                 | 51    | 51        | 244,327          | 61,204       | 305,531       |
| Temperature Extremes | 21    | 51        | 16,163           | 81,526       | 97,526        |
| Winter Storms        | 21    | 105       | 42,762           | 0            | 42,762        |

*Note: All damages are in 2014 dollars*



# Annual Damages

| Hazard               | Years | Incidents per Year | Annual Property Damages | Annual Crop Damages | Total Annual Damages |
|----------------------|-------|--------------------|-------------------------|---------------------|----------------------|
| Automobile Accidents | 15    | 3,549.14           | 60,715,233              | 0                   | 60,715,233           |
| Flood                | 52    | 0.96               | 591,882                 | 608,359             | 1,200,241            |
| Thunderstorms/Wind   | 51    | 3.63               | 539,887                 | 98,470              | 638,357              |
| Tornadoes            | 51    | 0.25               | 488,207                 | 0                   | 488,207              |
| Lightning            | 51    | 0.31               | 356,894                 | 0                   | 356,894              |
| Drought              | 25    | 0.68               | 0                       | 150,280             | 150,280              |
| Railway Accidents    | 40    | 5.30               | 119,516                 | 0                   | 119,516              |
| Pipeline Hazmat      | 39    | 0.13               | 77,403                  | 0                   | 77,403               |
| Hail                 | 51    | 1.00               | 4,791                   | 1,200               | 5,991                |
| Temperature Extremes | 21    | 2.43               | 770                     | 3,874               | 4,644                |
| Winter Storms        | 21    | 5.00               | 2,036                   | 0                   | 2,036                |

# Fatality and Injury Totals

| Hazard                               | Years     | Incidents    | Fatalities | Injuries     | Total        |
|--------------------------------------|-----------|--------------|------------|--------------|--------------|
| Automobile Accidents                 | 15        | 53,241       | 316        | 29,074       | 29,390       |
| <i>Sexually-Transmitted Diseases</i> | <i>9</i>  | <i>7,686</i> | <i>0</i>   | <i>7,686</i> | <i>7,686</i> |
| <i>Communicable Diseases</i>         | <i>9</i>  | <i>3,114</i> | <i>0</i>   | <i>3,114</i> | <i>3,114</i> |
| Railway Accidents                    | 40        | 212          | 15         | 49           | 64           |
| Thunderstorms/Wind                   | 51        | 185          | 6          | 60           | 36           |
| <i>Aviation Accidents</i>            | <i>51</i> | <i>144</i>   | <i>11</i>  | <i>11</i>    | <i>22</i>    |
| Temperature Extremes                 | 21        | 51           | 4          | 11           | 15           |
| Tornadoes                            | 52        | 13           | 0          | 15           | 15           |
| Pipeline Hazmat Accidents            | 39        | 5            | 3          | 4            | 7            |
| Lightning                            | 51        | 16           | 1          | 5            | 6            |
| Winter Storms                        | 21        | 105          | 0          | 1            | 1            |
| <i>Land Subsidence</i>               | <i>15</i> | <i>1</i>     | <i>0</i>   | <i>1</i>     | <i>1</i>     |
| <i>Dam Failure</i>                   | <i>1</i>  | <i>1</i>     | <i>0</i>   | <i>1</i>     | <i>1</i>     |

# Annual Fatalities and Injuries

| Hazard                               | Years     | Incidents per Year | Fatalities per Year | Injuries per year | Annual Total  |
|--------------------------------------|-----------|--------------------|---------------------|-------------------|---------------|
| Automobile Accidents                 | 15        | 3,549.40           | 21.07               | 1,938.27          | 1,959.34      |
| <i>Sexually-Transmitted Diseases</i> | <i>9</i>  | <i>854.00</i>      | <i>0.00</i>         | <i>854.00</i>     | <i>854.00</i> |
| <i>Communicable Diseases</i>         | <i>9</i>  | <i>346.00</i>      | <i>0.00</i>         | <i>346.00</i>     | <i>346.00</i> |
| Railway Accidents                    | 40        | 5.30               | 0.38                | 1.23              | 1.61          |
| <i>Dam Failure</i>                   | <i>1</i>  | <i>1.00</i>        | <i>0.00</i>         | <i>1.00</i>       | <i>1.00</i>   |
| Temperature Extremes                 | 21        | 2.43               | 0.19                | 0.52              | 0.71          |
| Thunderstorm/Wind                    | 51        | 3.63               | 0.12                | 0.59              | 0.71          |
| Tornadoes                            | 52        | 0.25               | 0.00                | 0.29              | 0.29          |
| <i>Aviation Accidents</i>            | <i>51</i> | <i>2.88</i>        | <i>0.22</i>         | <i>0.22</i>       | <i>0.44</i>   |
| Pipeline Hazmat                      | 39        | 0.13               | 0.08                | 0.10              | 0.18          |
| Lightning                            | 51        | 0.31               | 0.02                | 0.10              | 0.12          |
| <i>Land Subsidence</i>               | <i>15</i> | <i>0.06</i>        | <i>0.00</i>         | <i>0.06</i>       | <i>0.06</i>   |
| Winter Storms                        | 21        | 5.00               | 0.00                | 0.05              | 0.05          |



# Hazard Identification

- Hazards with confirmed incidences, but no confirmed damage estimates
  - *Earthquake, Fog*
- Hazards no confirmed incidences
  - *Dust Storms, Landslides, Nuclear Power Plant Incidents, Terrorism , Wild Fire*
- Hazards without data on incidences or damages
  - *Correctional Center Incidents, Loss of Sewerage System, Power Outages, School Violence, Transportation Hazmat, Workplace Violence*

# Hazards Currently Profiled in the Plan

## Natural Hazards

1. Drought
2. Flooding
3. Fog
4. Hail
5. Lake Michigan Coastal Hazards
6. Lightning
7. Temperature Extremes
8. Thunderstorms/Wind
9. Tornadoes
10. Wild Fires
11. Winter Storms

# Hazards Currently Profiled in the Plan

## Technological Hazards

- 12. Contamination or Loss of Water Supply
- 13. Hazardous Material Incidents
- 14. Power Outages
- 15. Railway Accidents
- 16. Roadway Accidents
- 17. Terrorism

# Hazards Not Profiled by the Plan

## Natural Hazards

1. Agricultural Pests
2. Dam Failure
3. Dust Storms
4. Earthquake
5. Land Subsidence
6. Landslide



# Hazards Not Profiled by the Plan

## Technological Hazards

7. Aviation Accidents
8. Civil Unrest
9. Communicable Disease Outbreak
10. Communication Outage
11. Correctional Center Incident
12. Dirty Bomb
13. Fuel Shortage
14. Landfill Incidents
15. Loss of Sewerage System
16. Nuclear Power Plant Incident
17. Power Plant Incident
18. School Violence
19. Waterway Transportation Accident
20. Workplace Violence

# Project Web Site

- <http://www.sewrpc.org/SEWRPC/communityassistance/Hazard-Mitigation-Planning.htm>
  - Agendas and other meeting materials
  - Summary notes from meetings
  - Presentations
  - Draft chapters as they are completed
  - Comment screen
  - Other ways to send a comment
- Email to [jboxhorn@sewrpc.org](mailto:jboxhorn@sewrpc.org)