

CHAPTER V COMMUNITY FACILITIES

Roads and Transportation

Road Types and Functions:

The road system in Ada Township is comprised of both public roads and private roads. This Plan is concerned primarily with the public road system in the Township, which is under the responsibility and jurisdiction of either the Kent County Road Commission or the Michigan Department of Transportation, in the case of Fulton St. (M-21). Several residential developments in the Township, many of them under condominium ownership of home sites, are served by private roads. Ownership and maintenance responsibility for these rests with the property owners whose lands are accessed by the private roads. The Township Zoning Ordinance contains regulations which govern the location and design of these private local access streets.

The public roads in the Township cover a wide range of roadway types and functions, ranging from the regional arterial, 4-lane divided M-21, to local rural roads which are 22 feet wide and gravel-surfaced. Roadways can be classified in a hierarchy according to their predominant function. Functional classification is based on the two-fold purpose of the road system: first, to move traffic from one location to another; and second, to provide access to property which adjoins the road. Most roads serve both of these purposes, to varying degrees, with one or the other the dominant function. Functional classification categorizes roads according to which of these two purposes is dominant for a given road. The categories and functions of components of the Township's public road network are as follows:

- **Regional Arterial:**

The primary role of regional arterial roads is movement of traffic through the Township. Providing access to adjoining property is of minor importance. Traffic speeds in this classification are high (50 mph +). Additional characteristics include high traffic volumes, long roadway length, multi-lane cross-sections, no on-street parking and limited use of traffic control devices, or preference in signalization for major thoroughfare traffic movement. Access to driveways and intersecting streets may be provided only indirectly or in a restricted manner. M-21 (Fulton St.) and Cascade Road are the only two regional arterial roads in the Township. Proper management of the number, location and design of access driveways along regional arterials is important to maintain the safety, efficiency and capacity of these major roads.

- **Local Arterial:**

Movement of traffic within the Township remains the more important of the two functions for this category of roadway. However, access to adjoining property is of higher importance than in the case of Regional Arterials. Traffic signalization is more frequent, and operating speeds are lower. Many, but not all of the roads in the Township in this category are also classified as "Primary Roads" by the Kent County Road Commission. Examples of local arterial roads include Ada Drive, Spaulding Avenue, Honey Creek Avenue, Thornapple River Drive and Vergennes Street.

- **Collector Streets:**

Collector streets serve the dual functions of mobility and access. They collect traffic from a network of local streets, and link the local street network to streets of higher classification, while also providing access to adjoining properties. Examples of collector streets in the Township

include Adaway Dr. in the Adacraft Commons subdivision, Scarborough Dr. in the Ada Woods subdivision and Rix St. between Kulross and Ada Drive.

- Local or Neighborhood Streets:

The major function of local streets is providing access to adjoining property. Therefore, route continuity and limiting the number of access points are of negligible importance. Local streets carry little or no through-traffic, and their design should not encourage through-traffic. Most streets in platted subdivisions and the gravel-surfaced roads in the Township fall in the local street category.

A second, simpler road classification is the County Road Commission's classification of County roads as either "Primary" or "Local" roads. This classification is used uniformly by all Counties in the State, in accordance with Michigan DOT requirements. The County receives a higher level of funding per mile from the State for primary roads than for local roads. Primary roads are roads which are of greatest importance to traffic circulation in the County, to effectively serve major traffic origins and destinations. Improvement needs for primary roads are financed in total by the County, with available State assistance. Local road improvement needs are funded by a 45% contribution from the County, and 55% from the local government jurisdiction, by established policy of the County.

Description of Township Road Network:

Fulton St., a State trunk line highway (M-21) is the major east-west traffic route in the Township, connecting Ada Township to the greater Grand Rapids metropolitan area to the west, and to the Interstate Highway system. M-21 extends east from Ada Township through the cities of Lowell, Saranac and Ionia, and eventually, to the Flint area.

From the west Township boundary east to Kulross Ave., Fulton St. is a 4-lane divided highway, with paved shoulders. From Kulross east to the Grand River, there is a 5-lane cross-section, with curb and gutter. East of the Grand River is another short segment of 4-lanes with median. From a point just west of Bennett, the highway is a 2-lane facility. Traffic signals are located at the Spaulding Ave., Bronson St., Ada Dr. and Pettis Ave. intersections.

Fulton St. is heavily used by commuters to the Grand Rapids area from Ada Township and areas further east. It is also heavily traveled by employees and visitors to Alticor Corporation's manufacturing facilities, world headquarters offices, and catalog distribution center, including substantial volumes of truck traffic. Most recent traffic counts on the most-heavily traveled portion of M-21 between Ada Dr. and Pettis Ave. was 29,050 vehicles per day in 2004, up from 23,500 vehicles per day in 1989. A rather high proportion of the traffic volume passing through the Fulton St./Pettis Ave. intersection is turning traffic that is either turning from southbound Pettis Ave. on to westbound Fulton St., or from eastbound Fulton to northbound Pettis. This is underscored by the fact that Fulton St. traffic at Bennett St. in 2005 was only 11,800 vehicles per day in 2005, while the count on Pettis Ave. north of M-21 in 2004 was 15,056 vehicles per day. The recent institution of indirect left turns and a very long left turn storage lane for eastbound Fulton St. traffic going northbound on Pettis Ave. was necessitated by the volume of traffic traveling the Fulton-to-Pettis route.

The remaining major east-west roads in the Township include Ada Dr., Knapp St., Vergennes St. and Bailey Dr. Ada Dr. serves as a major collector route in the Township, serving the more densely-developed portion of the community. Ada Dr. connects the Ada Village area to the Forest Hills area. It also provides access to several churches along its length, as well as the Forest Hills

Central Middle School. Traffic volume on Ada Dr. east of Fox Hollow Ave. was about 8,000 vehicles per day in 2003.

Knapp Street provides the second means of crossing the Grand River in the Township. It also is used by commuters to the Grand Rapids area from points further east. 1992 traffic volumes east of Pettis Ave. were 2,900 vehicles per day. Traffic volume on Knapp St. has grown significantly since the opening of the Forest Hills Eastern school campus on Knapp St. at Pettis Ave. Counts taken in 2004 indicate a volume of 13,986 vehicles per day, east of Grand River Dr.

Vergennes St. and Bailey Dr. both extend from their point of convergence near Pettis Ave. near Fulton St. all the way east to Lincoln Lake Ave., north of the City of Lowell. These two roads are also used by residents of areas to the east of Ada Township in Vergennes Township. Vergennes St. also serves the Lowell High School campus, located 3 miles east of the Township line. 1992 traffic volumes on Vergennes St. were about 2,800 vehicles per day. This count was taken before the construction of the new high school. In 2004, traffic counts indicated a volume of 9,545 vehicles per day, on Vergennes St. east of Bailey Dr.

Although its length extends only 1 1/2 miles, Hall St. on the south boundary of the Township is also a significant east-west street, as it provides access to Forest Hills Central High School. A 2003 traffic count indicates a volume of 4,618 vehicles per day.

Major north-south travel routes in the northern, more rural part of the Township include Grand River Dr., Pettis Ave., Honey Creek Ave. and McCabe Ave. All four of these paved roads extend north to Cannonsburg Rd. in Cannon Township. Traffic volumes on these streets are in the range of 1,000-5,500 vehicles per day. Pettis Ave. receives heavy truck traffic between Fulton St. and Knapp St., due to the resource processing and asphalt manufacturing operations located in this area. Many of the roads in the northern part of the Township have sections of severe grades and limited sight distances from adjacent properties.

In the southern, more urbanized portion of the Township, major north-south routes include Spaulding Ave., Thornapple River Dr. and Buttrick Ave. Spaulding Ave., in the southwest part of the Township, connects Fulton St. to Cascade Rd., and continues south to Burton St. in Cascade Township. It is used for longer trips between the Ada and Cascade areas, including travel to the southeast end of the 28th St. commercial corridor. Spaulding Ave. also provides access to the Alticor Catalog Distribution Center, located just south of the Central Michigan rail line. All truck traffic to the facility is via Fulton St. Traffic volumes measured in 2003 along Spaulding Ave. ranged from 8,000 vpd north of Ada Dr., to 13,000 vpd south of Ada Dr.

Thornapple River Dr. is also a heavily-traveled north-south road, with 11,887 vehicles per day counted in 2005. This road is one of the few north-south routes connecting the Ada area to the Cascade area.

Traffic counts available from the Michigan Dept. of Transportation and Kent County Road Commission are summarized on the Traffic Counts map, located in the Appendix.

Road Network Problems and Limitations:

The existing and planned roadway network is an important consideration in future land use planning for the Township, given the major financial investment needed for road infrastructure improvements, and the impact of land use decisions on traffic. Current problems and limitations of the Township's road network which should be considered for future planning include the following:

- The Grand River represents a barrier to east-west traffic movement, as only two river crossings exist in the Township - M-21 and Knapp St.
- Routes for north-south travel between Ada and Cascade area are limited as well. Thornapple River Dr. traffic volumes between Ada and Cascade are near capacity. This route is used heavily by commuters from Ada Township and areas further to the north and east to the employment center in the Southeast Metro area. Improvements to north-south traffic circulation are needed, to ease the traffic burden through the Village and on Thornapple River Dr. The proposed Snow Avenue bridge across the Grand River, linking M-21 east of Ada to Snow Ave. in Cascade Township, would meet a pressing need for improved north-south circulation.
- Routes for north-south traffic movement between Fulton St. and Ada Dr. are limited between the Ada Village area and Spaulding Ave.
- roads north of Fulton St. are fairly lightly-traveled, although the confluence of several roads at M-21 and Pettis results in high peak-hour traffic volumes at the Pettis Ave./M-21 intersection.
- traffic congestion occurs in the Ada Village area at peak travel times; numerous driveways, some poorly-located, contribute to this congestion.

Recommended improvements to address these needs are discussed in the Community Facilities chapter.

Public Transit:

Ada Township is not served by fixed route public transit service. The Interurban Transit Partnership (ITP) does provide on-demand transit service to the Township through its "GOBUS", dial-a-ride service.

Air Travel:

Ada Township is within the area of influence of one major public use airport, one private use airport, and a private use helipad site. Land use planning in the Township should consider these facilities and seek to avoid land uses that may conflict with existing and future aircraft operations, based on either safety or noise considerations. The Municipal Zoning Act requires such consideration.

The Act requires that the Township "incorporate the airport layout plan or airport approach plan" into the Township Master Plan. Although the Act does not require absolute conformity between local government zoning and airport plans, it does require that any future changes in zoning rules or variance approvals "not increase any inconsistency that may exist between the zoning or structures or uses and any airport zoning regulations, airport layout plan, or airport approach plan."

The Gerald R. Ford International Airport is located in Cascade Township, approximately 3 miles south of Ada Township. Ada Township is within the approach zone of the airport's 8,500 foot north south runway, which was opened in 1997.

Kent County has adopted the Kent County Airport Zoning Ordinance, under the provisions of the Michigan Airport Zoning Act, which limits the height of structures within the vicinity of the airport.

These regulations have the same legal force and effect as the Township's zoning regulations, and apply to land within the Township in addition to Township zoning regulations. Therefore, the height of any structures that fall within both jurisdictions must comply with both ordinances. In addition, the Municipal Zoning Act provisions cited above concerning increasing any inconsistency between Township zoning and the airport zoning rules applies to Ada Township.

Figure 4 outlines the areas within the Township that fall within the Airport zoning height restrictions. The height limit is a sloped surface (conical shape) extending out from the airport to a limit which encompasses the southern one-third of the township. Structures within this area are limited to 1,060 feet above mean sea level near the southern Township border to 1,294 feet at the outer edge of the sloped surface. The height-limited area extends further to the north to include nearly all of the northern portion of the Township, at a constant height limit of 1,294 feet.

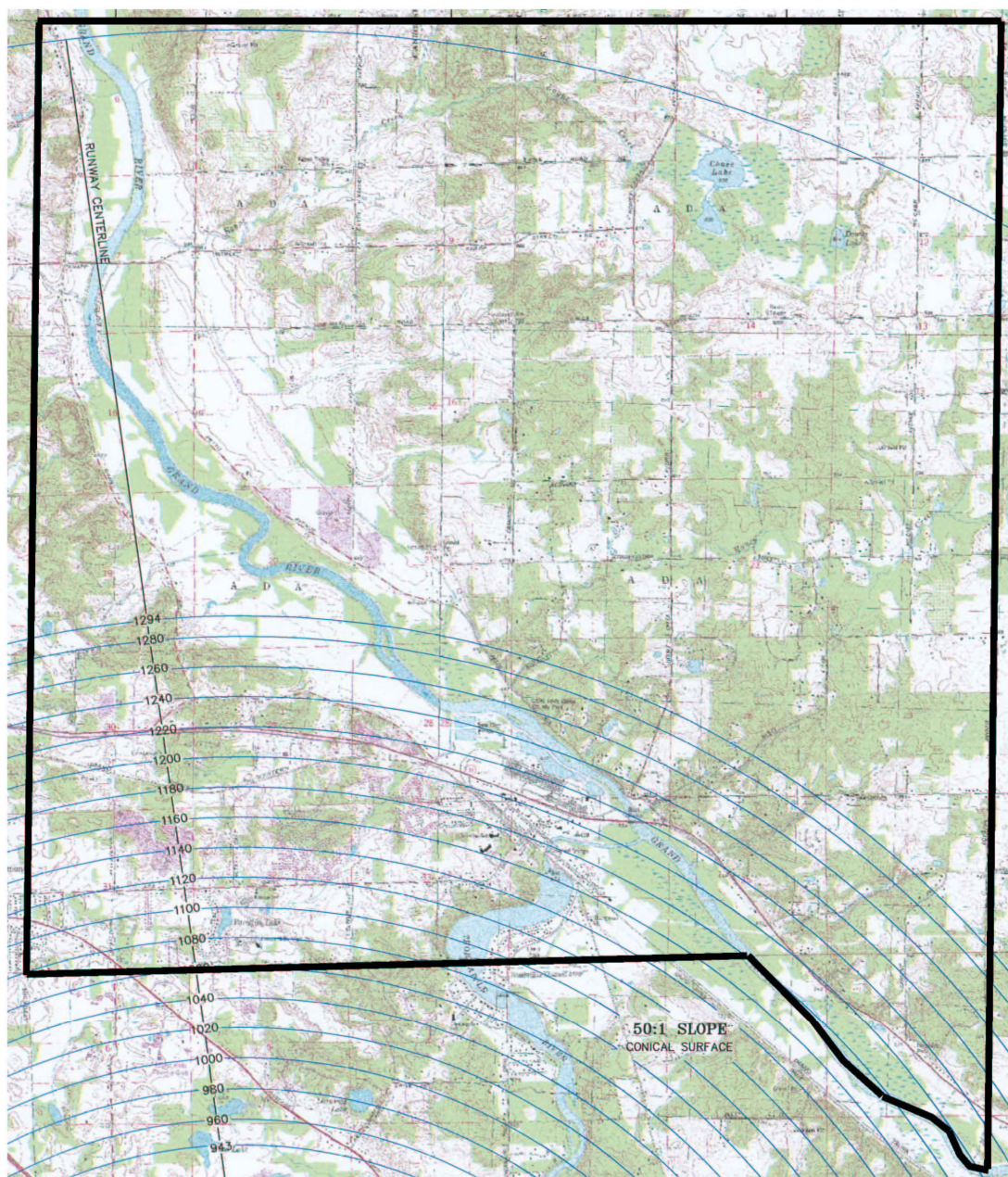


Figure 4 - Gerald R. Ford International Airport, Portion of Airport Zoning Plan

Whenever a tall structure is proposed within the Township, communication and coordination with the Kent County Department of Aeronautics should be established to ensure that structures within the Township meet both Township zoning requirements and the requirements of the Airport Zoning Ordinance.

The Somerville airport is a private, grass airstrip located immediately south of Ada Township's border, between Thornapple River Dr. and Buttrick Ave. The runway parallels the Township boundary in an east-west orientation. At one time this facility was classified by the State as a public use airport, but it has since been changed to a private use designation. Consequently, it no longer is subject to a State-approved "Airport Approach Plan," and Township plans and regulations are no longer subject to the airport-related provisions of the Zoning Enabling Act. However, the previously-applicable Approach Plan, depicted in Figure 5 below, should be used by the Township as a guide in establishing compatible land use regulations within the airport's flight path.

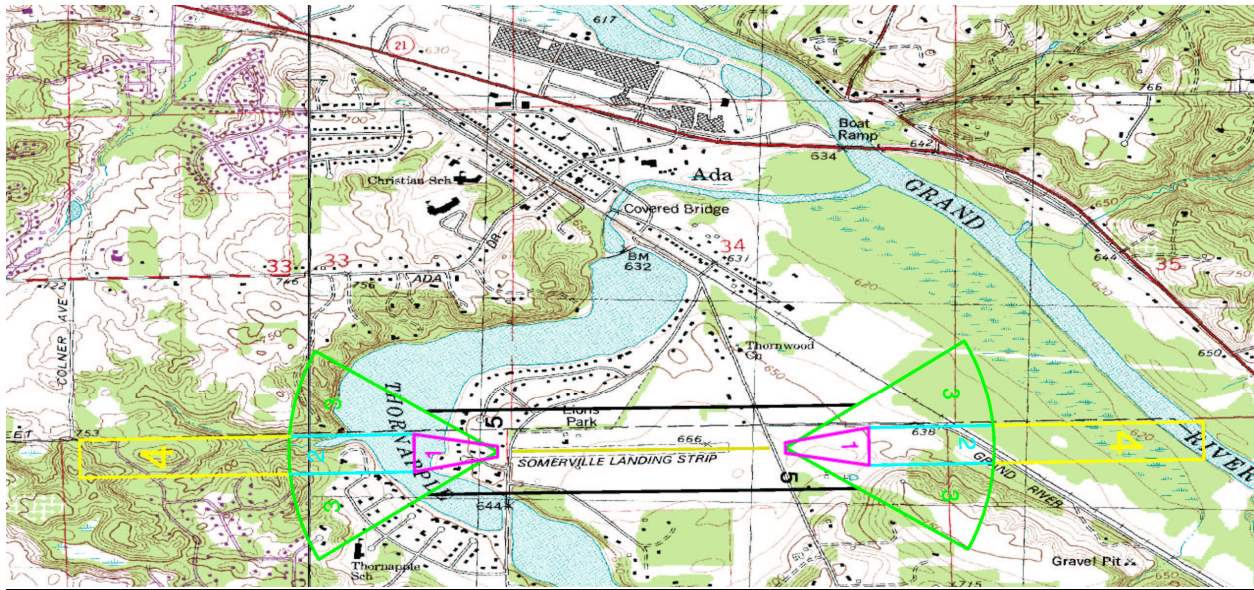


Figure 5 - Somerville Airport, Airport Approach Plan

Both of the above-referenced Approach Plans identify numbered sub-zones 1 through 5. Guidelines pertaining to appropriate land uses and planning strategies within each sub-zone have been prepared by the Michigan Aeronautics Commission, for use by local governments. With regard to the Gerald R. Ford Airport, the only types of structures and land uses that are likely to be of concern are elevated water tanks and telecommunications towers.

Areas within Ada Township affected by the Somerville Airport Approach Plan are limited to portions of the Ada Moorings development and very low density residential development located south of Ada Drive along the Thornapple River backwater. Neither this plan nor current zoning pose any conflicts with the Somerville airport.

Public Water and Sewer Services

Ada Township provides both public water supply and sanitary sewer services to portions of the Township. The Township purchases treated water on a "wholesale" basis from the City of Grand Rapids. It also purchases wastewater conveyance and treatment services from the City of Grand Rapids. These services are provided pursuant to a "Water and Sanitary Sewer Service Agreement" between the Township and the City, that was first entered into in 1978. A new agreement was negotiated and signed in 1999. The 1999 Agreement contains provisions that are

intended to encourage a more compact pattern of growth and to discourage sprawl within the Metro Area, by allowing extension of utility services beyond the limits of the current service area only when a high degree of build out of land within the current service area has been achieved. Following is a summary of the provisions of the 1999 Agreement:

The Agreement between the Township and the City of Grand Rapids defines the terms “Utility Services District” and “Urban Utility Boundary” as follows:

Utility Services District (USD): the area within the Township where public water and/or sewer services “shall be extended.”

- The USD could also be called the “current” or “short-term” utility service boundary.
- The Township may initially set the USD boundary at any location, at its sole discretion.
- Utility services may be extended anywhere within the USD, at any time.
- Utility services may not be extended outside the USD.
- Once established, the boundary of the USD may not be expanded unless the following conditions are satisfied:
 - 1) at least 65% of property within the existing USD boundary “has been developed.”
 - 2) the USD, after expansion, will be not less than 45% developed.
 - 3) the USD boundary may not extend beyond the Urban Utility Boundary (UUB) (defined below).

Urban Utility Boundary (UUB): that part of the Township within which “more dense urban development can be expected to be encouraged and to occur and within which urban services can, as development occurs, be expected to be provided.”

- The UUB is the “ultimate” or “long-term” utility service boundary.
- Areas outside the UUB “should remain primarily rural with less dense use encouraged and promoted.”
- The Utility Services District (USD) may eventually be expanded to the limits of the UUB.
- The UUB may only be expanded “upon mutual agreement of the City and the affected Customer Community” when the following conditions are satisfied:
 - 1) the boundary of the USD is at the limits of the UUB.
 - 2) at least 65% of the land area within the UUB is already developed.
 - 3) the Township has “adopted a zoning and planning master plan for property it wishes to include within the Urban Utility Boundary.”

In 1999, the Township established the USB and UUB boundaries as shown on the Public Water and Sewer Service Area maps in the Appendix. The limits of the USB and UUB for both water and sewer services were established to be identical. At the time of preparation of the Water System Reliability Study in 2006, it was estimated by Moore & Bruggink, the Township’s engineering consultant, that the land area within the existing Utility Services District is 69.2% developed, which is over the minimum requirement established for expansion of either the USB or the UUB. Following is a description of the Township’s public water and sewer facilities.

Municipal Water:

Ada Township is responsible for providing water service to individual customers within the service area, and operating and maintaining its distribution system. These responsibilities include

establishing rules and regulations regarding the use of the system, metering of usage, setting user rates, and billing of service charges. The Township is also responsible for maintenance, repair and replacement of its distribution system. The main water system currently serves approximately 2,000 customers, with a service area population of about 6,000 persons. Average daily water use in 2005 was about 1.35 million gallons. Alticor Corporation, the largest user in the system, accounts for about 40% of average daily demand. Excluding Alticor's usage, average daily usage is about 405 gallons per customer.

Treated water is supplied to the main Township system by a 16" diameter main and a 12" main from the City of Grand Rapids water supply system. The delivery point is the Township's booster pump station located on Ada Drive, at the west Township boundary. The booster pump station has three 1,500 gpm pumps, with a firm pumping capacity of 3,000 gpm. The major components of the distribution system are 16-inch and 12-inch mains. An elevated storage tank of 1 million gallon capacity is located on the south side of Ada Dr., east of Maple Hill Ave. The distribution system has three pressure zones, which compensate for the change in elevation which occurs from the higher ground in the southwest part of the Township, to the lower elevations near the Grand and Thornapple rivers in the eastern portion of the service area. Pressure reducing valves at four locations separate the high and medium pressure zones, and a single pressure reducing valve in the Ada Village serves the low pressure zone.

An additional area of public water service is the Grand Valley Estates water system, which serves the area near the intersection of Knapp Street and Pettis Avenue, including the Forest Hills Eastern school campus. Not connected to the balance of the Township's water system or the City of Grand Rapids system, this separate water supply and distribution system was constructed by the developer of the Grand Valley Estates subdivision. Ownership and management of this system was taken over by Ada Township at the request of the subdivision developer, in the mid-1990's. The system supply is provided by two 12" diameter wells located within Grand Valley Estates subdivision. A 250,000 gallon elevated storage tank is located on the Forest Hills Eastern school campus. The elevated tank is owned by the Forest Hills Public Schools district, and is operated and maintained by Ada Township pursuant to a contract between the Township and school district. In addition to serving the Grand Valley Estates subdivision and the school campus, this system serves the Egypt Creek Estates development located northwest of the Pettis Ave./Knapp St. intersection, and the East River Ridge development located west of Grand Valley Estates.

In 2005 the Grand Valley Estates system had 84 residential customer accounts, and three Forest Hills school campus accounts. Total water usage in 2005 was about 22 million gallons.

Areas outside the current public water service area are served by on-site private wells. In general, groundwater sources of water supply in the Township are sufficient in quantity and quality. The most common problem associated with groundwater supplies is excessive hardness, which can be remedied at moderate cost by in-home softening units. According to the Kent County Environmental Health Department, there are no problem areas in the Township where groundwater sources have become contaminated and unusable due to high nitrate or fecal coliform levels. These two pollutants are most commonly associated with contamination from on-site waste disposal systems, lawn fertilizers, agricultural fertilizers or animal manure.

Municipal Sanitary Sewer:

Ada Township also owns and operates a sanitary sewer collection system, serving an area which largely follows the public water service area. Major sanitary sewer mains, the contract service area and the area presently served are shown on the Sanitary Sewer Service Area map in the Appendix. Waste treatment services are provided by the City of Grand Rapids on a contractual

basis. As with the Township water system, Ada Township is a wholesale customer of the City of Grand Rapids. The Township is responsible for ownership, operation, maintenance and replacement of its collection system, and setting and administering user charges.

The wastewater collection system comprises approximately 143,000 linear feet of pipe, of which about 37,500 feet is 12-inch diameter or larger pipe size. The majority of the collection system flows by gravity to a pump station located on Fulton St., just west of the Ada Dr. intersection. Wastewater is pumped from this station through a 16-inch force main up Ada Dr. to a point west of Alta Dale Ave. From this point it flows by gravity west on Ada Dr. to the point of connection with the City of Grand Rapids system at the Township boundary.

Another pump station and force main on Fulton St., east of Alta Dale Ave. convey sewage back to the east to the Ada Village pump station. Two other pump stations and short lengths of force main serve the area near Cascade Rd., Spaulding Ave. and Hall St. There is also a pump station located on Spaulding Ave., south of the railroad, that serves much of the Clements Mill development and a portion of the West Village development. A force main runs between this pump station and a point on Spaulding Avenue just north of Ada Drive.

The system serves approximately 3,500 persons. According to the Master Plan for Metropolitan Water and Sewer Services, completed in March, 1992 for the Metropolitan Water and Sewer Planning Agency, average wastewater flows from the Ada Township system in 1990 were about 690,000 gallons per day. Industrial sources were estimated to account for 330,000 gpd, or 48% of total flows, with residential use accounting for 29% and commercial uses, just under 12%. Infiltration and inflow into the system accounted for the balance of 12% of total flows.

Projections of future population and wastewater flows contained in the Metropolitan water and sewer study are as follows:

Population

Year:	Township total:	Service Area:	Projected flow:
2000	10,025	5,453	1.17 mgd
2010	12,470	7,136	1.37 mgd
2020	14,918	8,578	1.55 mgd

The projections of flow do not assume any increase in the total service area of the Township's sewer system. The above population projections used to develop projected flows coincide with those used for transportation planning purposes in the Metro area, and were obtained from the Grand Rapids and Environs Transportation System (GRETS). It should be noted that these projections appear to be significantly higher than those used in the 1992 Township Water System Reliability Study, and are also higher than the projections developed in this Master Plan.

The only major facility need identified in the Plan is the addition of an interceptor sewer and pump station to serve the western portion of the Township, north of Ada Dr. This need was recently met with the construction of a pump station and force main on Spaulding Ave., to serve the new Amway Catalog Distribution Center. In addition, the Plan anticipates the eventual extension of the Township's collection system to serve the currently-unserved area south of Ada Dr., between Fox Hollow Ave. and the Thornapple River, in the event development occurs in this area.

Another area of needed service is the commercial area on the east side of the Grand River, at Fulton St. and Pettis Ave. Many of the uses in this area, such as restaurants/bars and a day care

center, should be served by public sewer, given their small parcel sizes, their proximity to the Grand River and its floodplain, and the numbers of people they serve. Since this area is outside the contractual Service Area, amendment to the Sewer Service Agreement would be required to provide service.

Overall, the Township's water distribution system and wastewater collection system are capable of meeting anticipated growth within the current sewer and water service area boundaries.

Parks and Recreation Facilities:

The Parks, Recreation and Open Space Plan, adopted by the Township Board in February, 2007, contains a complete inventory and description of the public and private park and recreation facilities in the Township. The public recreation facilities in the Township are summarized on the Park and Recreation Facility Inventory map, contained in the Appendix. The reader is referred to the Park, Recreation and Open Space Plan for the complete descriptions of these facilities.

Wireless Telecommunications Infrastructure:

In 2005, the Township retained a consultant to complete an assessment of the existing wireless telecommunications tower sites in the township, as well as evaluation of opportunities for co-location of additional wireless facilities on existing structures in the Township.

The September 2005 study report contains an inventory of existing structures that already were or potentially could be used for wireless communications equipment in the Township. The quality of the coverage of these existing and potential sites was modeled and graphically depicted on maps of the Township. The report also graphically depicts the coverage area from two potential additional wireless sites that, if used, would eliminate gaps in wireless coverage within the Township: 1) a site in the vicinity of the Forest Hills Eastern High School and Township/School district water tower, and 2) a site at the west end of the Alticor corporate headquarters and manufacturing complex, near Fulton Street and Grand River Drive. The analysis concluded that with the addition of these two sites, the wireless communications needs of the Township would be well served, and it is unlikely that additional "major hub" tower sites would be needed in the future.