



City of Geneva Southeast Subarea Plan



Adopted
November 19, 2012
Ordinance 2012-41

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Executive Summary

The City of Geneva engaged the Southeast Subarea Plan (SEMP) as a means to pro-actively plan for the orderly development of land in the City's southeast planning jurisdiction. The City's jurisdiction is identified by Geneva's "Facility Planning Area" and echoed in the City's existing Boundary Agreements with neighboring communities. The SEMP identifies existing conditions and needed infrastructure extensions for the study area to eventually be developed as a Business Park, with commercial development along the Kirk Road frontage. This is consistent with the City Comprehensive Plan, adopted in 2003. The Southeast Subarea Plan was prepared as an amendment to the City Comprehensive Plan, offering greater detail for this specific geographic area of the City: property bounded by IL Route 38 on the north, the Kane/DuPage County line on the east, Fabyan Parkway/Old Fabyan on the south, and Kirk Road on the west.

The City's main purpose in undertaking the study was to prepare for industrial development of the properties on the east area of the planning study – adjacent to the Kane/DuPage County line. The SEMP estimates needed infrastructure required at an ultimate build-out. ***While the ultimate build-out of the study area is considered, the time frame is not anticipated.*** Estimates are in 2012 dollars.

To calculate demand for sewer and water infrastructure, the study assumes the subject area is broken into four (4) development planning pods:

- **North Area** – to be a mixture of commercial and industrial uses located east of Kirk Road, north of the Union Pacific Rail Road (UPRR) line and south of IL Route 38.
- **West Central Area** - existing Old Kirk Road residential properties are shown as residential to reflect that no immediate change is expected. When calculating future utility demand, however, calculations considered this acreage may eventually be redeveloped as commercial.
- **Southwest Area** – to be a mixture of industrial and commercial uses at the southwest corner, envisioned to mainly serve and complement the existing recreational uses (baseball stadium, soccer facility, ice arena, and golf course); a proposed hotel/meeting/competitive sports facility proposed at former Kane County Jail site and Settlers Hill landfill; and surrounding businesses.
- **East Area** – to be industrial development west of, and along, the county line. Light industrial already exists to the north, east, and south of this area.

The Southeast Subarea Plan presents a utility grid and road spine which would provide adequate utilities to serve the new industrial and commercial development. The SEMP is a high-level engineering review, taking into account needed depth and size of utility extensions, road connections, approximate stormwater volume, and traffic signals. A cost estimate has been undertaken to help facilitate development and strengthen Geneva's tax base. Next steps and an implementation strategy are also presented.

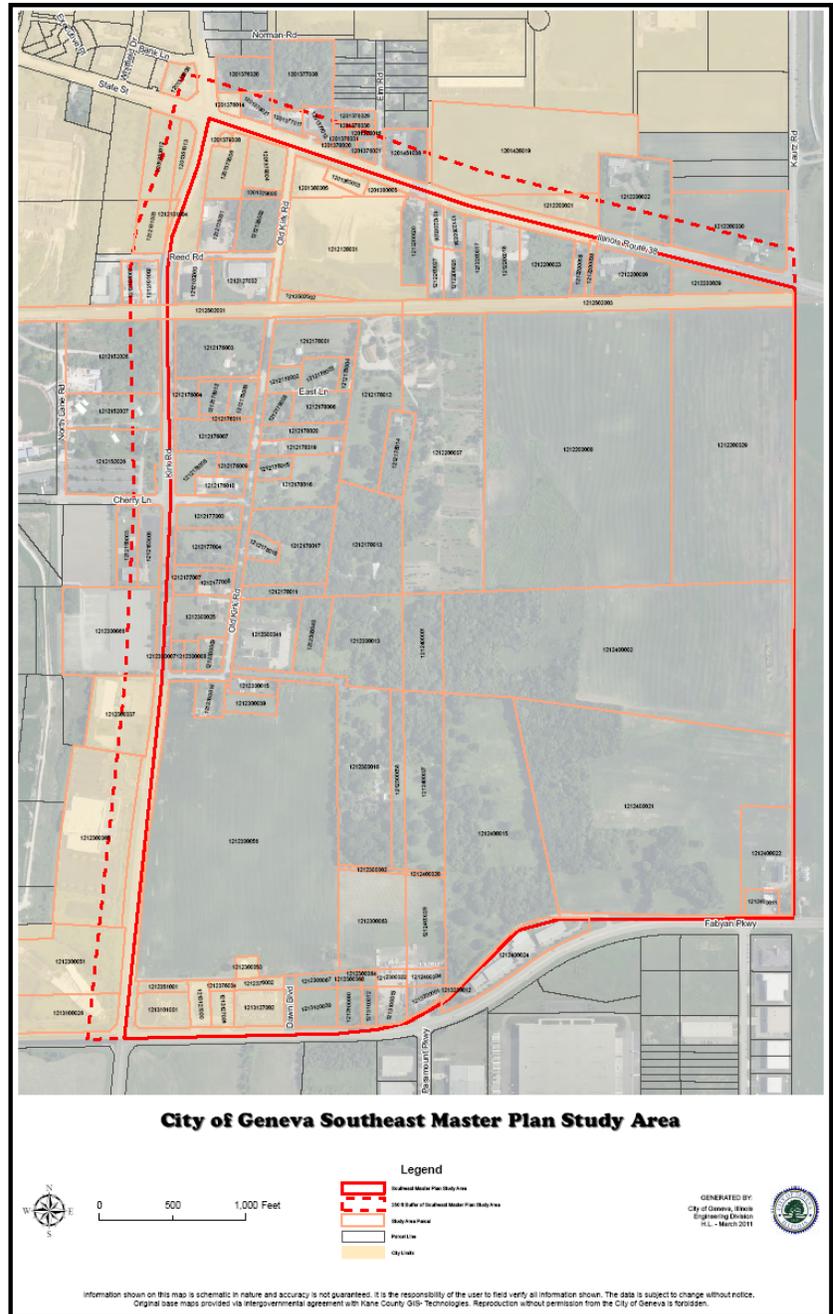
Project Scope and Process

The City of Geneva retained the services of Wills Burke Kelsey Ltd. / Land Vision Inc. to assist in the creation of the Geneva Southeast Subarea Plan. The project planning area is generally bounded by the Kane/DuPage county line on the east, Fabyan Parkway on the south, IL Route 38 on the north and Kirk Road on the west. It includes land annexed into the City as well as properties identified for annexation into Geneva via boundary agreements in place with the neighboring cities of West Chicago and Batavia.

Adopted as an element of the Geneva Comprehensive Plan, this Subarea Plan will assist the City and guide industrial business development in marketing and developing land which is currently adjacent to, but not annexed within, the City corporate limits. The project planning area includes an area generally proposed for non-residential development (industrial, commercial, and entertainment uses) in the Geneva Comprehensive Plan. At the west and south are parcels which may ultimately be redeveloped, and some parcels which may not be annexed into the City and would retain their current use.

The Goal of the SEMP

The goal is to describe the City's vision for the future of the area, expectations for development and redevelopment, and recommendations on land use, road connections, utility extensions, access and circulation, transit, and open/civic spaces.



Process

The following outline was utilized to gather existing information, engage the public and evaluate existing infrastructure, leading to the final report, public presentations, review by Plan Commission and City Council, and adoption of the Plan:

- **Gather data from the City, County, State, and Federal Agencies**
- **Distribute and compile Resident / Business Subarea Survey**
- **Property Owner Meetings (vacant properties)**
- **Site Design / Land Use Workshop (Public Agency Staff)**
- **Resident / Community Meetings**
- **Develop Alternative Land Use / Infrastructure Plans**
- **Alternative Land Use / Infrastructure Evaluation and Report**
- **Public Information Meeting to present draft Plan**
- **Plan Commission Public Hearing / Referral to City Council**
- **City Council Review / Comment / Adoption**

Existing Site Conditions

Land Uses – Context Outside of the Study Area

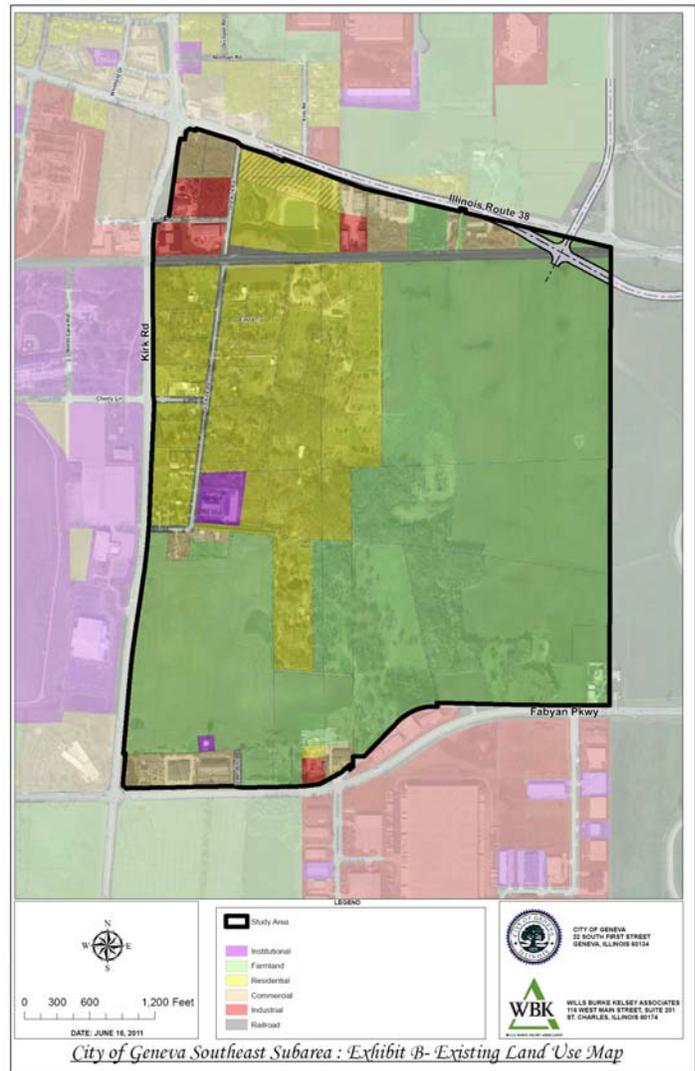
The study area is surrounded by a variety of land uses with the predominant use being light industrial. To the north there is a mix of undeveloped and developed business properties with older buildings located directly adjacent to the north side of IL Route 38. Further north, at Averill Road, is the Geneva Business Park with a mix of light industrial, research laboratories, and office use. To the east lies the DuPage Business Center (previously known as the DuPage Technology Park), located in the City of West Chicago. The park is fully improved relative to infrastructure but lies largely vacant in terms of uses and building construction. Adjacent to the study area, and south of Fabyan Parkway, is a business park located within the City of Batavia. The target market for each business park is light industrial and office users.

To the west lies recreational and entertainment uses including Fifth Third Stadium (formerly known as Elfstrom Stadium), Settlers Hill Golf Course, the Fox Valley Ice Arena, and the Settler’s Hill landfill. Almost all the land from Kirk Road west to IL Route 25 is owned by Kane County and the Kane County Forest Preserve District. Both are collaboratively planning for development of their properties with additional sports facilities and a hotel/meeting facility which would be built at the former Kane County Sheriff facility/Jail on Fabyan and at the Settlers Hill landfill.

Land Uses – Study Area

The study area contains a mix of existing land uses including residential, commercial, agricultural, and industrial. Further definitions of uses and locations are as follows:

Along the south side of IL Route 38 is a mix of undeveloped and developed business properties with older buildings and some vacancies. There is potential for some of these older commercial uses to be vacated and redeveloped in the future. In 2007, a fifteen acre site at the southeast corner of IL Route 38 and Kirk Road received approval for a mixed use project to contain 8 buildings with a mix of commercial and housing; the project was not built. A major planned roadway



improvement is expected to begin in late fall of 2012 along IL Route 38 at Kautz Road; this project will create an overpass for IL Route 38 and Kautz Road over the existing Union Pacific Railroad (UPRR) tracks and a center median on IL Route 38.

The study area also includes a residential area developed incrementally over the years as single lots, rather than a uniform subdivision. Most of the parcels are served by a township roadway (Old Kirk Road) with the exception of those served by a private street. Homes in this rural residential development vary from 1 to 3 acres and are served by individual septic tank absorption fields and private wells. There are also 3 large residential estate parcels south and east of the rural residential subdivision. These existing residential parcels and the estate parcels are not currently annexed to the City of Geneva. East of Kirk Road and south of the existing rural residential subdivision is a church and limited non-residential uses.

At the southwest corner of the study area (northeast quadrant of Kirk Road and Fabyan Parkway) there is limited commercial development including restaurant, hotel, and office uses.

The balance of the subject property, including approximately 270 acres, is undeveloped and includes some land currently used for agriculture purposes. There are areas within these undeveloped properties that contain natural resources such as wetlands and forest providing habitat for wildlife. Any development should give careful consideration to drainage areas, soils, and existing vegetative conditions in or near the natural resource areas. It is recognized that a majority of the undeveloped property is controlled by six land owners. Coordination or collaboration amongst these six owners can provide benefit for the entire study area.

Site Access

The site is served by existing arterial roadways including IL Route 38 to the north, Kirk Road to the west, and Fabyan Parkway to the south. The study area has significant frontage on all three roadways, yet there are parcels without frontage on these arterial roads. A planned improvement to IL Route 38 will create an overpass of the existing UPRR tracks and will allow for a potential new access point at the northeast corner of the study area. The current plans do not, however, provide for a grade transition from the proposed elevated intersection to the study area. There is an existing traffic signal at the intersection of Cherry Lane and Kirk Road and the potential for an additional traffic signal at the existing access to the Fox Valley Ice Arena. There are a variety of existing access types and locations along Fabyan Parkway typically serving adjacent frontage properties. Potential for signalized access to the study area appears to be best along Fabyan Parkway at Louis Bork Drive (just west of the County Line). Additional full access to Fabyan Parkway is provided through an access agreement with Kane County at a currently unimproved location identified as Dawn Boulevard, just east of Kirk Road. Potential exists for access to the adjacent DuPage Business Center, on the east.

Topography & Drainage

A significant feature of the study area is a drainage divide between the Fox River and Kress Creek watersheds. The easterly 44% or approximately 222 acres of the study area drains east and south through the DuPage Business Center or the City of Batavia and then to Kress Creek. The westerly 56% or approximately 278 acres of the study area drains west along the UPRR tracks to the Fox River. This is an important element that defines utility service areas, drainage requirements, and must be respected in final design of a proposed development.

Utilities

Portions of the study area are currently served by the City of Geneva with potable water and sanitary sewer collection and treatment; and electric utility service. The existing residential area along Old Kirk Road has private wells and septic systems and electric service is provided by Commonwealth Edison. A small portion of the study area fronting Fabyan Parkway receives sewer, water, and electric service from the City of Batavia; these properties, along the curve, are in the Batavia planning jurisdiction, per the Geneva-Batavia Boundary Agreement. The entire service area is expected to receive private third-party gas service, phone service, internet, and cable service. Further definition and discussion on utilities is provided in subsequent sections.

Land Use Plan

Four Primary Study Areas

The Southeast Subarea Land Use Plan illustrates proposed land uses for the entire 500 acre study area. The following land-use description divides the subject property into four primary planning pods including the North Area (parcels 1-3), the West Central Area (parcels 4-8), the Southwest Area (parcels 9-13), and the East Area (parcels 14-17).

It should be noted that use of the word “Parcel” does not indicate a specific property with a unique Property Identification Number (PIN), but refers to several PIN’s assembled by compatible land use.

North Area Parcels 1 through 3

The North Area is a triangular shape fronting along IL Route 38 from Kirk Road on the west to Kautz Road on the east. Approximately 59 acres, it includes parcels 1 through 3 and is bounded on the south by the Union Pacific railroad tracks. Utilities exist to this area, but it was included in the study due for several reasons: potential impact of the extension of Kautz Road south of IL Route 38, unincorporated land adjacent to City utilities, and potential to improve the road system.

Parcel 1 and 3 straddle Old Kirk Road and together include approximately 40.3 acres designated for Mixed-Use development. Portions of both parcels were annexed in 2007. Anticipated uses are retail, entertainment, and office uses; the City remains flexible. These parcels have frontage and visibility along IL Route 38 and currently have existing commercial uses along a portion of this frontage.

Parcel 1 and the western 15 acres of Parcel 3 receiving zoning approval for 7 buildings containing 30,750 sq. ft. of retail; 29,750 sq. ft. of office, commercial; 270 condominium units (410,722 sq. ft.) and a 14,808 sq. ft. club house, but the project was not built. The project proposes to move the Old Kirk and IL Route 38 intersection to be signalized at a location approximately 100 feet to the east. There remains opportunity to develop the vacant land as well as to assemble existing parcels for redevelopment opportunities.



There is also a 4.5 acre parcel at the southwest corner of Old Kirk Road and Reed Road that is designated as Industrial or Commercial. Reed Road is not a dedicated street; it runs east-west parallel to the UPRR and crosses under the Kirk Road bridge. The properties on Reed Road are unincorporated and are developed with older industrial uses that could be consolidated and redeveloped, with ultimate use subject to market demands at the time of development.

West Central Area Parcels 4 through 8

South of the UPRR tracks, with frontage along Kirk Road and Old Kirk Road, the West Central Area is approximately 104 acres and is primarily existing rural residential. This area includes parcels 4, 5, 6 and 7 and continues to be designated as residential. However, long term future uses could be industrial or office as an alternative to the existing residential and as the final phase of the implementation of the Geneva Southeast Subarea Plan.

Parcel 8 represents an existing church use which is shown as institutional on the plan.



Southwest Area Parcels 9 through 13

The Southwest Area has frontage on Kirk to the West and along Fabyan Parkway to the south. The Southwest Area is approximately 86 acres and includes parcels 9-13.

Parcel 9 is along the south side of Old Kirk Road (Old Kirk makes a 90° turn north) and is shown as industrial or commercial on the Subarea Plan. The parcel is partially developed with a communications tower and a day care facility.

Parcels 10 and 11 in the Southwest Area include approximately 48.21 acres of area designated for commercial land uses. This area is currently vacant land and has approximately 2,000 lineal feet of frontage along Kirk Road. The Subarea Plan indicates a proposed traffic signal at the Fox Valley Ice Arena intersection between parcels 10 and 11. A signalized intersection would create two highly



visible corner lots of approximately 24 acres each, with strong commercial potential. Additionally, parcels 10 and 11 may derive secondary access from Fabyan Parkway through a location identified in an access agreement with Kane County Department of Transportation (KCDOT) and known as Dawn Boulevard. This would create corner lots with commercial potential; this access is depicted between parcels 11/12, and 13.

The Subarea Plan anticipates that parcels 10 and 11 will create a commercial, entertainment and retail activity node within the larger Geneva Southeast Sub Plan. It is anticipated that this commercial area can provide services for the needs of the existing Kane County sports venues along the west side of Kirk Road, as well as the future employment base created within the Subarea Plan.

At the northeast quadrant of Kirk Road and Fabyan Parkway, parcel 12 is designated as commercial land use. This parcel is currently developed with a restaurant, light industrial/office uses and a hotel. It is anticipated that these uses would remain in place.

The last parcel within the West Area is parcel 13 which is approximately 21.3 acres and is designated as industrial or commercial. The development of this parcel will be market driven and is designated with the two primary uses that are anticipated. Parcel 13 will have good access to Fabyan Parkway through the future Dawn Boulevard noted above or existing full access at Paramount Parkway.

East Area Parcels 14 through 17

The East Area is approximately 250 acres and includes Parcels 14-17. This area has limited frontage on Fabyan Parkway and is bounded by the Kane-DuPage county line on the east, and the UPRR on the north; it is adjacent to the existing DuPage Business Center and the Batavia Industrial Park. The East Area of the Subarea Plan contains mostly vacant land partially used for agricultural production. This area has limited frontage along Fabyan Parkway due to an existing narrow depth industrial development which lies between Old Fabyan and Fabyan Parkway; this area is outside the study area because it is in the Batavia Planning jurisdiction.

Parcel 14 at the north end of the East Area is approximately 52.1 acres and includes several existing estate properties and vacant farmland. These parcels have separate ownership but could be consolidated to create a 52.1 acre development area designated as industrial on the Subarea Plan. A buffer adjacent to the existing residential properties to the west should be considered and studied in greater detail at the time a specific development proposal is being planned.



Parcels 15, 16 and 17 are divided by proposed north-south and east-west roadways providing primary access to a combined approximately 173.8 acres of area designated as industrial. This 174 acre area of currently undeveloped land is the primary opportunity within the Geneva Southeast Subarea Plan to create a significant industrial and business park for the City of Geneva.

This area could be assembled by a single developer or could be developed by several developers. In either case, the City of Geneva should seek to create development guidelines to create a unified and quality project.

A new signalized intersection at Louis Bork Drive will provide the primary access to Fabyan Parkway from the south. A new signalized intersection at the Fox Valley Ice Arena access will provide the primary access to Kirk Road from the west. The east-west roadway, as shown on the Subarea Plan, will provide circulation through undeveloped parcels between the proposed signalized intersections. It may be desirable to bring the road west if deeper land parcels are desired between this new roadway and the county line.

The north-south roadway will also provide circulation through undeveloped parcels and will ultimately connect to an extension of Cherry Lane. It is also possible to create a fourth or south leg to the planned grade separation of the Kautz Road and IL Route 38 intersection and connect the north-south roadway. The SEMP identifies the preservation of this opportunity, but not a recommendation for a connection at this time.

Infrastructure Plan

As part of the plan, an evaluation of infrastructure and engineering issues was performed related to development of the project area and system planning from the City's perspective. This evaluation includes preliminary cost estimates as well as consideration of phasing for initial startup development potential. Based on the scope of the study, only broad conclusions regarding the impacts of land development can be made. The infrastructure evaluated includes transportation / roadways, potable water, wastewater collection, electric and stormwater management. Private utilities such as phone, cable and natural gas are not considered in the scope of this report.

Transportation-

A planning-level traffic impact study was prepared with the goal of identifying the recommended and expected roadway improvements that might be necessary to accommodate the traffic from proposed development. It appears that the surrounding roadway network can be expanded to accommodate the additional traffic generated from development in accordance with the Land Use Plan in Appendix A.

Kautz Road

The most obvious question regarding transportation and the study area is whether Kautz Road should be extended from IL Route 38 to Fabyan Parkway. Although it appears logical to consider the extension of Kautz Road, a variety of factors have resulted in a plan that does not extend Kautz Road south from IL Route 38 as a preferred alternative.



The Illinois Department of Transportation (IDOT) concluded that an extension of Kautz Road from IL Route 38 to Fabyan Parkway does not benefit the local roadway system and did not include this "4th" leg

in the overpass project. An extension of the roadway with an IL Route 38 interface could, however, create a Business Park with a higher regional profile, making the area more attractive. Unless there is a specific user that needs the IL Route 38 access and name recognition we see no local benefit to the roadway system.

Other factors supporting the exclusion of the “4th” leg from the Southeast Master Plan include:

- The cost of embankment / walls from the proposed elevated intersection of IL Route 38 & Kautz to existing grade. At over \$2.5 Mil it is more expensive than the cost to run sewer and water northward from Fabyan Parkway. Regardless of cost, the City must consider if sufficient access will exist for eventual land uses without the connection.
- The limited access and slopes of the embankment would eliminate potential for commercial land use at IL Route 38 and minimize available industrial acreage along Kautz.
- The ability to serve a majority of the undeveloped land in the study area without the south leg of IL Route 38 & Kautz.
- The configuration of the arterial roadway network to the east making Fabyan Parkway a suitable route for regional access to the study area.
- A through route from IL Route 38 to Kautz would attract bypass trips not generated from the study area causing a need for a more robust roadway section and increasing construction costs for intersection improvements to accommodate regional traffic.

Even though we have not depicted the southerly extension of Kautz Road at IL Route 38, the Plan does, however, recommend keeping the potential for a future connection available. A potential developer or business locating in the area might wish for the greater visibility and more direct access that a connection at IL Route 38 could provide, so the connection is not ruled out in the plan. Ultimately, City review and approval of specific development proposals will determine the final disposition of the southerly extension of Kautz Road at IL Route 38.

Fabyan Parkway

Access from Fabyan Parkway to the study area is anticipated to be provided at two locations: Louis Bork Drive and Dawn Boulevard, with the primary location an extension of Louis Bork Drive. Louis Bork Drive currently provides full unsignalized access to Fabyan Parkway. The future extension of Louis Bork Drive north into the study area as an industrial collector roadway similar to Geneva Drive and Averill Road could initiate further development north of Fabyan Parkway in the study area. Traffic signal and turn lane improvements would ultimately be necessary. Dawn Boulevard does not exist as an access location to Fabyan Parkway except in an access agreement with Kane County. The Dawn Boulevard location is critical to serving the southwest corner of the study area and could facilitate some commercial development along Kirk Road. Spacing of this intersection from Kirk Road is close and a future signal would need to be approved by Kane County, therefore a signal is not depicted on the plan. The intersection of Fabyan Parkway and Kirk Road will require improvements subject to a specific development proposal and will be considered at such time. Appendix D provides concept-level traffic projections and improvements.

Kirk Road

Access from Kirk Road to the study area is anticipated to occur at two locations previously identified by KCDOT: the Fox Valley Ice Arena entrance and Cherry Lane, with the primary location at the Fox Valley Ice Arena entrance where an extension of a commercial collector roadway into the study area is recommended. Traffic signal and turn lane improvements would ultimately be necessary as well as intersection improvements at Kirk Road and Fabyan. The extension of this access point could initiate further development east of Kirk Road in the study area. Cherry Lane at Kirk Road is an existing signalized intersection. However, due to traffic impacts on the existing residential area it is anticipated a connection through to the study area will be constructed subsequent to significant development in the study area. Although not initially needed, once the study area is fully developed, a second access to Kirk Road will strengthen the transportation network. The residents on Old Kirk note a need for pedestrian crossing signals at the intersection of Kirk and Cherry.

The residents on Old Kirk wish to retain their right-in/right-out access at Old Kirk/New Kirk Road and the City agrees this could be beneficial in the future. Geneva Fire Department requests that this access point remain as a full access point.

Internal Roadways

The primary roadway network within the study area is anticipated to be constructed to industrial / commercial collector roadway standards. The system connects the primary and secondary access locations noted in the previous sections. The location of the roadway is based on lot depths from adjacent industrial development and allows the potential for redevelopment of residential areas or simply provides better access. It is noted that connectivity to the DuPage Business Center as well as Kautz Road are depicted as “future” based on a specific development proposal / plan.

Rail / Transit

At this time the opportunity for a transit station or rail access to support industrial development appears remote. METRA has reviewed opportunity and reverse commute traffic remains weak. The opportunity may exist through a specific development proposal / plan; however, a specific location was not sited in the Plan.

Bike / Pedestrian

It is recommended that bicycle and pedestrian access through the site is anticipated to follow the roadway network. The design of this access is recommended to be an asphalt bike path similar in nature to the path existing along Averill Road. The closest regional trail is the Geneva spur of the Illinois Prairie Path which runs east-west with a leg at Kautz Road. A pedestrian connection from the internal roadway network to the IL Route 38 and Kautz Road intersection where it can follow an existing trail north to the Prairie Path is recommended. Likewise, a bike path extension from the Fox River Trail already runs along the north side of Fabyan Parkway to the west side of Kirk Road. Therefore it is recommended to construct an extension of the bike path across Kirk Road and the existing development into the study

area. The planned reconstruction of the IL Route 38 and Kautz Road intersection will bring the bike path south over IL Route 38 on the west side of Kautz Road, where the path will then continue east along IL Route 38 into the DuPage Business Center. Currently the path ends at the intersection.

Potable Water -

The study area is well-served with a potable water utility. Most notable is the presence of a 500,000 gallon elevated water storage tank at the southwest corner of the study area. Based on a review of 2-foot-contours, the entire area can be served by this facility with no concern of pressure loss if distribution mains are adequately sized. Three primary connection locations and two secondary connection locations are recommended. The first connection is to the water tower located on the site. The second connection is to a 12-inch-diameter distribution main located north of the UPRR tracks and west of Kautz Road at the northeast corner of the study area. It is anticipated a primary distribution loop would follow the roadway network to connect these two locations. This would require a casing under the UPRR tracks. The third connection is to the 12-inch-diameter distribution main located along the west side of Kirk Road. Two secondary connections are also identified to the 12-inch-main along Kirk Road for future service to the existing residential properties, or if redevelopment were to occur. Finally, it should be noted that a potential emergency interconnect to the City of Batavia is identified at Louis Bork Drive. The City of Geneva and City of West Chicago have discussed potential emergency interconnect as well; this would be identified as development occurs along the County line, north of Fabyan. Based on location of the study area within the City's Facility Planning Area (FPA) and on recent capital improvements to the City's water supply and treatment facilities in 2008, the study did not evaluate the need for additional treatment or wells for the study area. The proposed potable water system layout is depicted on Exhibit EX1.

Wastewater Collection-

The City of Geneva wastewater treatment facility, located along the Fox River west of IL Route 25 and south of the UPRR tracks, is determined to have adequate capacity to serve the site based on discussions with City staff. Wastewater collection can be provided through one of two trunk sewers adjacent to the site. The primary trunk sewer is a 24-inch-diameter pipe that runs along the south side of the UPRR tracks. This sewer was constructed with the intent of serving the study area and will serve a majority of the site. The other trunk sewer is an 18-inch-diameter pipe that crosses Kirk Road and serves parcels with frontage on Fabyan Parkway. Both trunk sewers combine along the UPRR tracks west of Kirk Road and convey flows to the Geneva wastewater treatment facility. It appears the entire site can be served by gravity without the need for a lift station. This is a primary concern for the southeast portion of the study area. This determination was made by first establishing an estimated floor elevation based on stormwater detention constraints and stormwater ordinance freeboard requirements. It was assumed that the land use would be light industrial and that no building in the southeast portion of the study area would have basements. A preliminary sewer profile was prepared utilizing the invert elevation of the trunk sewer and routing pipe along the roadway network. Pipe slopes were adjusted to maintain a minimum velocity of 2 ft/sec flowing full in accordance with IEPA requirements.

Sanitary sewer pipe sizes were based on projected flows from adjacent land uses. Flows were estimated by comparing a flat rate of 15 P.E./acre to development densities and from floor area ratios determined by City staff. In all cases the flat rate was found to be more conservative and therefore used. The possibility of redevelopment of some of the adjacent residential areas was considered as a conservative measure when establishing design flows. A peaking factor was applied as well as infiltration rate of 500 gal/in/mi/day. Flows were allocated to the pipe network at specific locations based on existing ownership and generally directed to the upstream portion of the collection system. The pipe diameters based on this sizing routine all appear to be reasonable and less than the trunk sewers to which they connect. The proposed wastewater collection system layout is depicted on Exhibit EX2.

Electric -

Electric service lies adjacent to the study area serving properties at the corner of Kirk Road and Fabyan Parkway. However, the capacity to serve additional development is limited without construction of a substation. Therefore all development scenarios, including initial startup phases, include the construction of a substation. The estimated size of the new substation is 20MW and would require a footprint between 0.5 and 0.75 acres. At this time the substation site has not been located to allow for flexibility for development interests. The closer to Fabyan Parkway, the less expensive the substation costs will be. It is preferred to keep the substation away from the UPRR tracks if possible. To create a looped distribution circuit, electric duct and manholes would need to be placed across the UPRR tracks and extended north of IL Route 38. On-site the system would follow the roadway network and connect to existing facilities at Kirk Road, Old Kirk Road (overhead), and at the water tower. The proposed electric distribution system layout is depicted on Exhibit EX3.

Stormwater Management-

The study area lies within two watersheds: the Kress Creek and Fox River watersheds. A ridge line divides the site with the northerly third of the study area draining north to a swale along the UPRR tracks (Fox River) or east to the West Chicago Tech Park (Kress Creek), primarily as sheet flow. The southerly third of the site drains west to a storm sewer along Kirk Road (Fox River) or south to a storm sewer along Fabyan Parkway (Kress Creek). Based on the variety of sub-watersheds present, a regional stormwater management solution does not appear to be easily implemented or beneficial to development opportunities. Therefore a stormwater management approach based on “site development” was evaluated. Existing parcel boundaries and ownerships were used to identify potential development parcels. Based on land use assumptions, the percent impervious surface and estimated detention volumes were determined. Using 2-foot–contours, an outlet elevation and basin high water elevation were identified (based on a storage depth of 5 feet for each basin). Finally, off-site drainage improvements were generally identified, where needed, so that the controlled runoff can be facilitated across downstream properties without adverse impact.

It is noted that there are various areas throughout the study area that are identified as wetlands or natural resource areas by either the National Wetland Inventory maps, the Kane County ADID maps, or site wetland delineations prepared by property owners. The natural resource areas are identified to have significant stands of trees providing high habitat value for wildlife. None of these sources can be

considered definitive as to the extent of wetlands / natural resources that will be present when a specific development plan is proposed. They do provide an indication that more detailed study is required relative a specific proposal.

It should be noted the City of Geneva will eventually have 83 wetland credits to sell at the Prairie Green Preserve, a nature area on the City's west side.

The proposed drainage system layout is depicted on Exhibit EX4 including watershed boundaries, overflow routes, potential basin locations/data, and off-site drainage improvements.

Development Phasing

Without the south extension of Kautz Road it is anticipated that access to Kirk Road or Fabyan Parkway will be the primary driver for initial development. It is likely that parcels adjacent to Kirk Road, Fabyan Parkway (or collector roadway with access to either) will develop first because the cost to build the southern (4th) leg of Kautz Road, extending south of IL Route 38 is more expensive than the cost of running utilities to Fabyan.

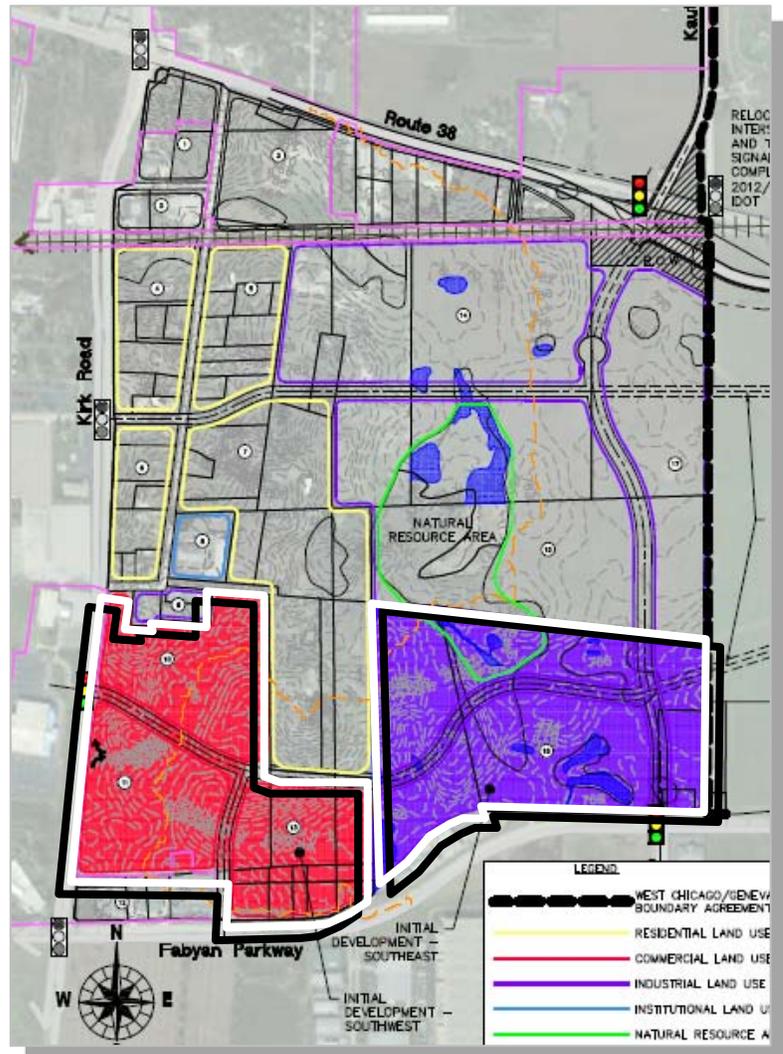
If development begins at the south, road infrastructure will be less costly than the cost of connection to IL Route 38. Utility extension may be more costly for development at the south end of the study area, as compared to that at the north end of the study area. Utilities do exist at the northeast and southwest areas of the study area.

Based on this assertion that development will most likely begin from the south, two “initial development scenarios” were evaluated. These are called “Commercial Southwest” consisting of parcels owned primarily by Batavia Enterprises and Sorrentino, and “Light Industrial Southeast” consisting of parcels owned by Founders Bank. It should be noted that some of the Commercial Southeast area (noted in red on the preliminary plan shown to the right) may be best suited for light industrial land use as an extension of the land uses to the south and east, but for sake of naming has been labeled commercial.

Cost Estimates -

Two potential phasing scenarios were considered but three estimates of infrastructure cost are provided as part of this study. They are:

- All Improvements – the entire study area
- Initial Development Scenario – Commercial Southwest
- Initial Development Scenario – Light Industrial Southeast



It should be noted that the initial development scenarios do not represent a cumulative addition of infrastructure costs but represent the required infrastructure to support development within the area identified. For example, each scenario requires construction of the substation to support the electric requirements, but only one substations will be needed. The cost has been included in each scenario. Hence, one cannot subtract the Initial Development Scenario costs from the All Improvements cost to derive the infrastructure costs for the remaining study areas.

All Improvements -

This estimate includes 10 infrastructure element groupings:

- Group A consists of demolition and clearing items and includes well abandonment. Two wells were identified within the study area although more may exist. This is not considered a significant item related to the overall project cost and is covered within the project cost contingency.
- Group B consists of earthwork improvements primarily consisting of excavation and fill. The quantity includes roadway excavation and all detention basin excavation based on estimated required detention volumes.
- Group C consists of drainage improvements including roadway storm sewers and cross culverts. Off site storm sewers and drainage improvements are included and site specific storm sewers are not included.
- Group D consist of roadway improvements related to on-site roadways only. Off-site intersection and roadway improvements are covered under Group H.
- Group E consists of water distribution improvements and is split into two subsections. The first subsection is for the undeveloped areas, and the second subsection is for water distribution improvements in the existing residential areas.
- Group F consists of wastewater collection improvements and is split into two subsections as well. The first subsection is for the undeveloped areas and the second subsection is for wastewater collection improvements in the existing residential areas.
- Group G consists of soil erosion and sediment control items.
- Group H consists of off-site intersection and roadway improvements. The estimate provided is a high-level estimate not based on specific geometry or quantities. It is expected this estimate will be refined and revised when a specific development proposal and specific improvements are identified.
- Group I consists of electric – roadway lighting improvements. Group J consist of electric distribution improvements including substation construction. The unit prices were provided by the City of Geneva for items in this group.

Initial Development Scenarios -

These estimates also include the same 10 infrastructure element groupings. Quantities are adjusted based on development of parcels identified in Exhibit CP1. Off-site storm sewers and drainage improvements are included and considered as necessary. Group D consist of roadway improvements related to on-site roadways only. Water and wastewater improvements do not include improvements to the existing residential areas (Groups E & F). The Light Industrial Southeast scenario includes significant off-site wastewater collection system improvements. Group H are adjusted as necessary. Finally, electric items are adjusted as necessary but each scenario does include construction of a substation.

Recommended Next Steps

Primary implementation strategies involve the resolution of uncertainty related to third-party governmental approvals and positioning of the undeveloped properties for successful development.

- Initiate discussions with KCDOT on access agreements for Kirk Road and Fabyan Parkway.
- Existing residential development along Kirk/Old Kirk Road to remain. Provide opportunity for future redevelopment based on land owner interest.
- Provide conceptual infrastructure planning, costs, and phasing scenarios including evaluation of electric substation options.
- Identify natural resource areas for proper development planning.
- Identify a route for 138kv corridor and easement / ROW acquisition for electric utility.
- Allow for potential of Kautz Road extension.
- Consider incremental utility extensions in the City's Annual Capital Improvement Plan.
- Identify financing for infrastructure construction, including Capital Planning, and applicable economic development tools. At time of development the list of potential financing tools included in this Report should be consulted to determine if they are applicable.

Intergovernmental Agreement -

The City initiated discussions with West Chicago and the Geneva / West Chicago boundary agreement was revised boundary and adopted in September 2012. This revised boundary line is depicted on the Land Use; it amended the boundary line for the two Cities to fall at the Kane/DuPage County line.

The City re-established the Geneva / Batavia boundary agreement in December 2011. This revised boundary line is used in the land planning for this report.

There have been informal discussions with KCDOT staff regarding access to Kirk Road and Fabyan Parkway. There is an existing access agreement between KCDOT and private land owners on Fabyan Parkway. It is recommended that this plan be utilized to enter into formal discussions with County staff to better define County goals and requirements and to facilitate the intergovernmental agreement process when a site specific development proposal is being developed.

Transportation Infrastructure -

Full signalized access to the study area is critical to encourage development and sustain a viable business environment. Two new traffic signals on the adjacent arterial roadways can provide adequate access for development of the study area. The future extension of Cherry Lane completes

a robust roadway network for the proposed land uses and provides opportunity for future redevelopment of existing residential land uses.

With the access noted above, there does not appear to be significant benefit to the City of Geneva to bear the expense of construction of the southerly extension of Kautz Road at IL Route 38. The site can be served without encouraging regional traffic to cut through the site. Furthermore, the cost of the southerly extension, increased study area roadway costs and intersection improvements at Fabyan Parkway suggest leaving the extension as a future option.

Resource Areas -

The study area contains documented natural resource areas. It is recommended that any plan seek to work with the resources to find a balance between protection and economics. Further definition of the extent and quality of the resources needed are beyond the scope of this study. Regardless whether these resources are protected or mitigated there is a cost and timeline associated with each that should be taken into consideration when plans are being developed.

Phasing -

Significant utility infrastructure is required to support development within the study area. However, most utility service capacity exists, and it is a matter of determining the most logical way to extend utilities to serve the study area leaving the City with a system that can be readily maintained. The largest challenge lies with the need for an electric substation which cannot be easily staged or phased. If a significant portion of the undeveloped property were combined and developed at one time the construction of an electric substation is not as significant. Conceptual costs are provided as guidance to encourage and identify an initial development phase.

Funding Strategies

In an effort to encourage and facilitate economic development we have identified several funding sources that warrant further evaluation to support the initial development of the study area. The funding programs identified herein represent the current opportunities based on the grant “environment” at the date of this report. Funding programs and grant opportunities are dynamic and continually changing in terms of scope, interest, and funding levels. It is recommended that an evaluation of grant opportunities be performed relative to a specific development proposal. This would include reviewing current opportunities and consider criteria such as total program funding, local match requirements and percentages, suitability of project to program goals, and schedule requirements of applications and expenditures.

Tax Increment Financing (TIF)

Tax Increment Financing, or TIF, is a public financing method that is used for subsidizing redevelopment, infrastructure, and other community-improvement projects in many states including Illinois. TIF is a method to use future gains in incremental real estate taxes (due to new development and property improvements) to subsidize current improvements, which are projected to create the conditions for said gains. The completion of a public project often results in an increase in the value of surrounding real estate, which generates additional tax revenue. Sales-tax revenue may also increase, and jobs may be added, although these factors and their multipliers usually do not influence the structure of TIF.

To qualify for TIF eligibility the area, or district, must meet certain criteria. To be designated as a blighted area for improved property (land that is not vacant), the district must contain at least 5 of 14 factors that make it detrimental to the public safety, health or welfare of the community. These factors must be present, with that presence documented, to a meaningful extent so that a municipality may reasonably find that each factor is clearly present and reasonably distributed throughout the improved part of the area. These factors are:

- Dilapidation
- Obsolescence
- Deterioration
- Illegal use of individual structures
- Structures below minimum code standards
- Excessive land coverage and overcrowding of structures and community facilities
- Lack of ventilation, light, or sanitary facilities
- Inadequate utilities
- Excessive land coverage
- Deleterious land use or layout
- Environmental clean-up
- Declining equalized assessed value
- Lack of community planning

Vacant land must have at least two of the following six factors that impair sound growth of the area, using comparable standards of evidence as for improved areas:

- Obsolete platting
- Diversity of ownership
- Tax and special assessment delinquencies
- Environmental contamination
- Declining equalized assessed value
- Deterioration of structures or site improvements on adjacent land

One of the concerns with TIF financing is the local taxing body objection to limiting on tax revenues. However, since the proposed land uses will not create residents, and therefore services; and because the property is currently not within the corporate limits, we do not foresee significant local objection to formation of a TIF within the study area. The extent to which the study area will qualify for TIF funding is beyond the scope of this report and requires detailed examination of the criteria against specific statutory requirements.

Since most of the study area is vacant land, it appears questionable that the study area possesses the required “blight” to qualify for TIF financing, as identified in the first listing of factors above. Present in the site however, are these factors:

- Obsolete platting - landlocked parcels without access to roadways
- Diversity of ownership – this compounds the challenge of roadway access for the landlocked parcels
- Declining equalized assessed value – recent foreclosure of properties and adjusted property values
- Deterioration of structures or site improvements on adjacent land – found on properties on Reed Road and IL Route 38

Tax Increment Financing is to be used in situations where “but for” this assistance development is not or cannot occur. A TIF feasibility study would document the extent of each factor and identify if the area qualifies as a Tax Increment Finance District. It is recommended a TIF feasibility study occur with a specific development proposal.

State Revolving Loan Fund (SRF) for water and wastewater improvements

The SRF programs, including the Water Pollution Control Loan Program (WPCLP) for wastewater projects and the Public Water Supply Loan Program (PWSLP) for drinking water projects, are the recipients of annual federal capitalization funding, which is combined with state matching funds and program repayments to form a perpetual source of low interest financing for environmental infrastructure projects

SRF program loans generally provide a twenty-year repayment term, with shorter repayment schedules negotiated under certain project circumstances. Simple interest rates for the program are established annually and are calculated and applied at one-half the Bond Market Interest Rate, defined as the mean

interest rate of the 20 General Obligation Bond Buyer Index for the preceding fiscal year. The programs will continue to offer principal forgiveness terms to certain communities based on economic criteria.

SRF program rules will require a full and complete loan application, including: an approved Project or Facilities Plan; a complete financial package; nx certification that the necessary project site, right-of-way, easements, and permits for construction of the project have been obtained; approved design and bid packages; and a variety of executed legal documents necessary for project implementation.

In addition, an Intended Use Plan shall provide to the maximum extent practicable that priority for the use of funds is given to projects that:

- Address the most serious risk to human health;
- Are necessary to ensure compliance with the requirements of the SDWA (Safe Drinking Water Act); and
- Assist systems most in need on a per household basis, according to affordability criteria established by each state.

The water supply and wastewater collection infrastructure within the study area is eligible for SRF funding but there are several challenges to overcome. First is the requirement that all right-of-way, easements, and permits for construction of the project are procured. This would require platting and significant upfront expense before there was any indication SRF is a source of financing for improvements. Second, there are many more projects requesting SRF funding than funds available. Based on the priority listing, infrastructure for new land development would not rank high. Infrastructure to improve existing residential areas would stand a better chance of getting funded.

Kane / Kendall Council of Mayors (Surface Transportation Program) transportation improvements

The Surface Transportation Program (STP) provides funding to municipalities for projects on the Federal-Aid Highway System. Northeastern Illinois is divided into eleven Council of Mayors, which are allocated STP funding on the basis of population for local transportation projects. The Kane/Kendall Council of Mayors currently receives approximately \$4.9 million a year in STP funds. About every three years, the Council has a call for all eligible projects; calls for Local Agency Pavement Preservation (LAPP) Projects occur more frequently. The projects are ranked according to the KKCOM methodology. The rankings are utilized by the Transportation Policy Committee to prepare a programming recommendation. The Policy Committee program recommendation is forwarded to the Full Council for final approval. Then, the program is submitted to CMAP to be developed into the regional Transportation Improvement Program (TIP), northeastern Illinois five year agenda of surface transportation projects.

Examples of Eligible Project Types:

- Roadway rehabilitation, reconstruction, restoration
- Widening / add lanes
- Intersection improvements
- Traffic signal improvements

Since new roadways in support of land development are typically not funded with STP funds the most likely application would be for intersection improvements. The process and criteria for ranking intersection projects is as follows:

Each Surface Transportation Program (STP) highway project shall be evaluated using five categories. Each category is assigned a weighted value. The assumption is that the higher the weight of a category, the greater the significance of the category in terms of benefit from the project. In addition, the Council should place emphasis on highway projects that have benefit over more than a local area. The six categories are:

1. Traffic Volume (25%)
2. Road Condition (15%)
3. Local Commitment (30%)
4. Safety (15%)
5. Transportation Control Measures (15%)

STP funding requires the local agency shall fund Phase I engineering locally. The match ratio for Phase II engineering and right-of-way shall be at a maximum Federal percentage of 50%. The match ratio for construction and Phase III engineering of STP projects shall be at a maximum Federal percentage of 75%, if the sponsoring agency funds Phase II engineering locally; otherwise the match ratio for construction and E3 shall be at a maximum Federal percentage of 70%.

While the proposed intersection improvements would be eligible a case must be made for regional significance. The funding of improvements to support land development has not typically been funded by the Council. The most probable scenario where intersection improvements would get funded is the extension of Kautz Road from IL Route 38 to Fabyan Parkway.

Industrial Revenue Bonds

The Illinois Finance Authority and the Upper Illinois River Valley Authority issue tax-exempt Industrial Development Revenue Bonds (IRB's) on behalf of manufacturing companies to finance the acquisition of fixed assets including land, buildings, and equipment. Bond proceeds may be used for either new construction or renovation and may be used to purchase new equipment. The City of Geneva has acted as a conduit for IRB financing in the past.

Eligibility for Industrial Development Revenue Bond projects includes facilities that are primarily used to manufacture or process tangible products. The Internal Revenue Code defines all IRB eligibility requirements. Final determination of project eligibility is subject to a legal opinion from a recognized municipal bond attorney.

This may be a financing approach for a private company seeking to purchase property within the study area. This financing would be used for construction of an individual facility. This method of financing is not available to the City to finance public improvements or to purchase right-of-way.

Loans

The Illinois Finance Authority (IFA) Local Government Bond Program assists units of local government, including municipalities and school districts, in financing capital improvement projects. Local government and school district bonds issued through IFA are exempt from both federal and state income taxes. IFA's approval process for local government bond projects is considered streamlined, requiring just one meeting for approval. IFA State Aid Intercept enables the local government borrower to consent to the intercept of state aid payments to cover shortfalls in debt service payments, assuring that bondholders are paid in a timely manner.

Highlights and Benefits:

- The program provides local government units with the opportunity to achieve interest cost savings and to structure flexible loan repayment terms.

Benefits of issuing debt obligations through IFA include:

- Exemption from both federal and state income taxes
- Access to credit enhancement through a "tax intercept" mechanism
- Access to creative financing options
- Attentive finance professionals and quick turn-around time

Illinois Transportation Enhancement Program (ITEP)

ITEP provides funding for community based projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic, and environmental aspects of our transportation infrastructure. Project sponsors may receive up to 80% reimbursement for eligible project costs. The remaining 20% is the responsibility of the project sponsor. A project must qualify as one of the 12 eligible categories listed in the ITEP Guidelines Manual, and the project must relate to surface transportation to be eligible for funding.

These categories include:

- pedestrian and bicycle facilities
- historic preservation
- rehabilitation of historic transportation facilities
- landscaping and scenic beautification
- scenic and historic highways
- scenic easements
- transportation museums
- outdoor advertising control
- safety education for pedestrians and bicyclists
- rails-to-trails corridor preservation
- archeological planning and research
- mitigation for roadway runoff and wildlife connectivity

It seems unlikely, based on current program policies that any improvements identified in the study area would rank high on the ITEP priority list if they even qualify at all. This is not a promising source of funding.

IDOT Economic Development Program (EDP)

The purpose of the Economic Development Program (EDP) is to provide state assistance in improving highway access to new or expanding industrial distribution or tourism developments. The intent is to make available state matching funds that will be a positive contribution in the location-selection process and to target those projects which will expand the state's existing job base or create new employment opportunities. The focus of the program is on the retention and creation of permanent full-time jobs. Funding will be available to construct highway facilities that provide direct access to industrial, distribution, or tourism developments. The program is designed to assist in those situations where development of these types of facilities is imminent. Projects which only improve opportunities for development or are speculative in nature are not eligible for EDP funding.

The EDP program is designed to provide up to 50% state funding for eligible locally owned roadways, and 100% state funding for roadway improvements on state-owned routes. The remaining 50% match will be provided by local government entities or private sources. However, IDOT can only enter into an agreement with a local body of government (i.e. township, city, village, or county). Although it is a requirement of the program for the sponsor to contribute local money to the project, IDOT will allow grants from other state agencies as an allowable funding source for the sponsor's 50% match if the local agency has participated in the project in some fashion such as preliminary engineering, donation of land, etc.

Eligibility Criteria

The cost-effectiveness of each investment of EDP dollars is a major factor in the evaluation of proposed projects. Priority considerations are:

- Need for the highway improvement and imminence of development.
- Compatibility of the proposed roadway with the design of the existing roadway system.
- Primary jobs created or retained in Illinois and total developer site cost estimate.
- Annual and peak day attendance at tourist developments.
- Commitment of the industrial/distribution/tourist development to the site to be served by facility.
- Willingness of the sponsoring local government to participate in the local share of the improvement cost.

Examples of Non-Eligible Items

- Land Acquisition
- Building demolition
- Landscaping
- Sidewalks
- Street lighting
- Utility adjustments

The construction of industrial access roadways within the study area would qualify for this funding. However, the development would need to be imminent and not speculative. There is a local match where the City would need to commit funding.

CMAQ Congestion Mitigation for 4th leg extension to Fabyan

The Congestion Mitigation and Air Quality (CMAQ) Improvement Program is a federally-funded program of surface transportation improvements designed to improve air quality and mitigate congestion. In 2011 CMAP began implementing GO TO 2040 through the CMAQ program by having Program Focus Groups prioritize submitted projects on how they support the goals and action areas of GO TO 2040. Many projects are eligible for CMAQ funding but the specific project type that best fits the extension of Kautz Road from IL Route 38 to Fabyan is noted below.

1. Traffic Flow Improvements – The CMAQ program finances three types of traffic flow improvements:
 - I. Bottleneck Elimination – These projects remove existing bottlenecks to traffic flow. Under current guidelines, a bottleneck is defined as a point along a roadway that restricts traffic flow. Road segments, even if relatively short, are not eligible. Bottleneck eliminations may be reviewed for eligibility on a case-by-case basis, since CMAQ funds cannot be used to fund "general purpose through lanes."
 - II. Intersection Improvements – These projects ease the flow of traffic through existing intersections without adding capacity. Such projects include addition of left turn lanes (including continuous bi-directional left turn lanes) or traffic signal installation. Signal Interconnects – These projects reduce delays through a series of intersections by coordinating the signal phases, thereby reducing emissions.

The extension of Kautz Road from IL Route 38 to Fabyan Parkway may qualify for CMAQ funding based on a reduction of trips and therefore intersection delay on Kirk Road. The CMAQ program requires a 20% local match for roadway and intersection improvements. The CMAQ program is established through year 2016. Phase 1 engineering costs have recently been excluded from grant funding and are the sole responsibility of the local agency.

Illinois Green Infrastructure Grant Program for Stormwater Management (IGIG)

Grants are available to local units of government and other organizations to implement green infrastructure best management practices to control stormwater runoff for water quality protection in Illinois. Projects must be located within a Municipal Separate Storm Sewer System (MS4) or Combined Sewer Overflow (CSO) area. Funds are limited to the implementation of projects to install best management practices (BMPs).

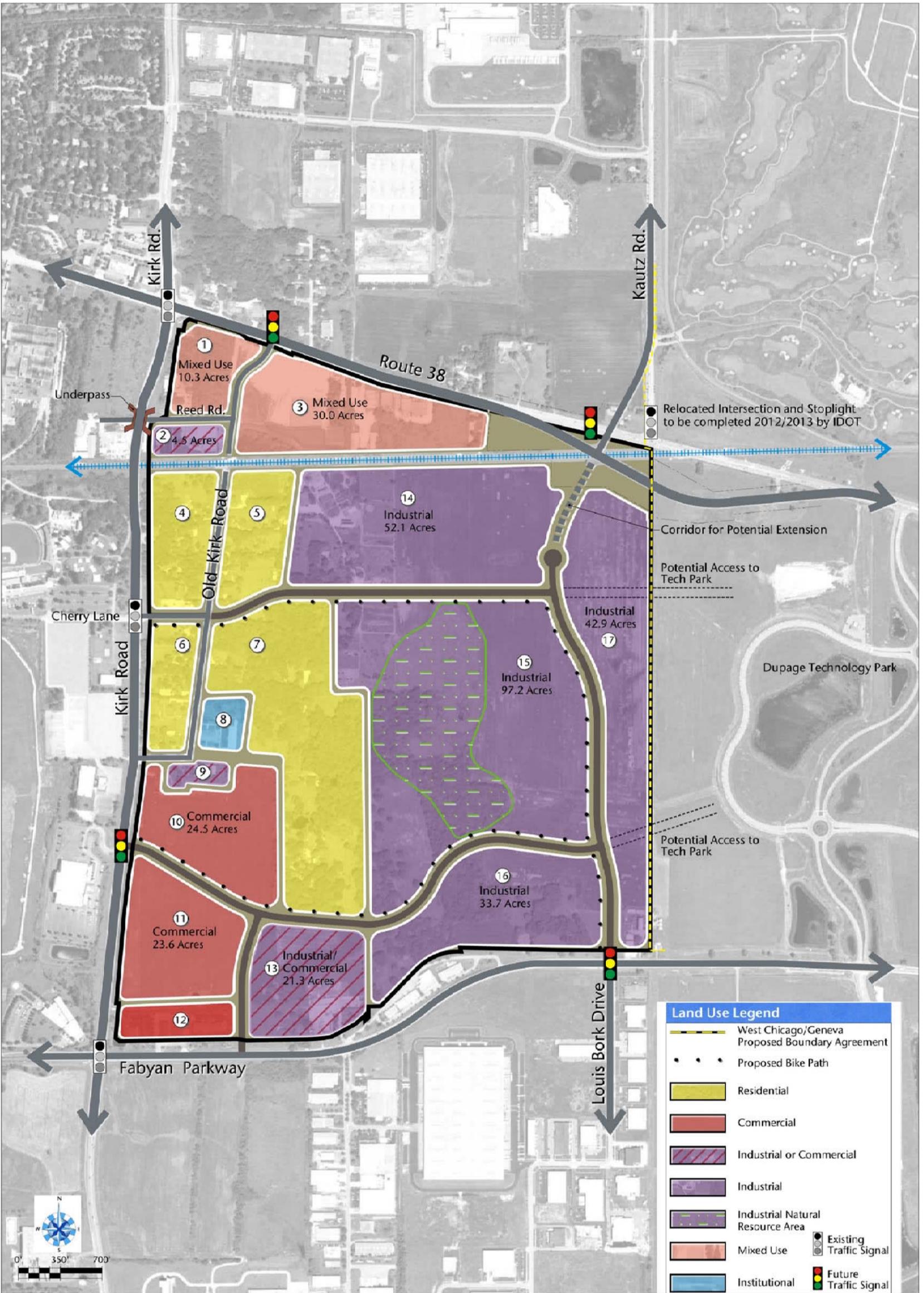
The total amount of funding available under IGIG is approximately 5 million dollars annually. This is a reimbursement program. Grant recipients must perform the work, pay project costs, and submit invoice(s) (periodically throughout the project period) with supporting documentation before Illinois EPA will reimburse recipients for any approved costs.

Under IGIG, the Illinois EPA will accept proposals for the following three program categories:

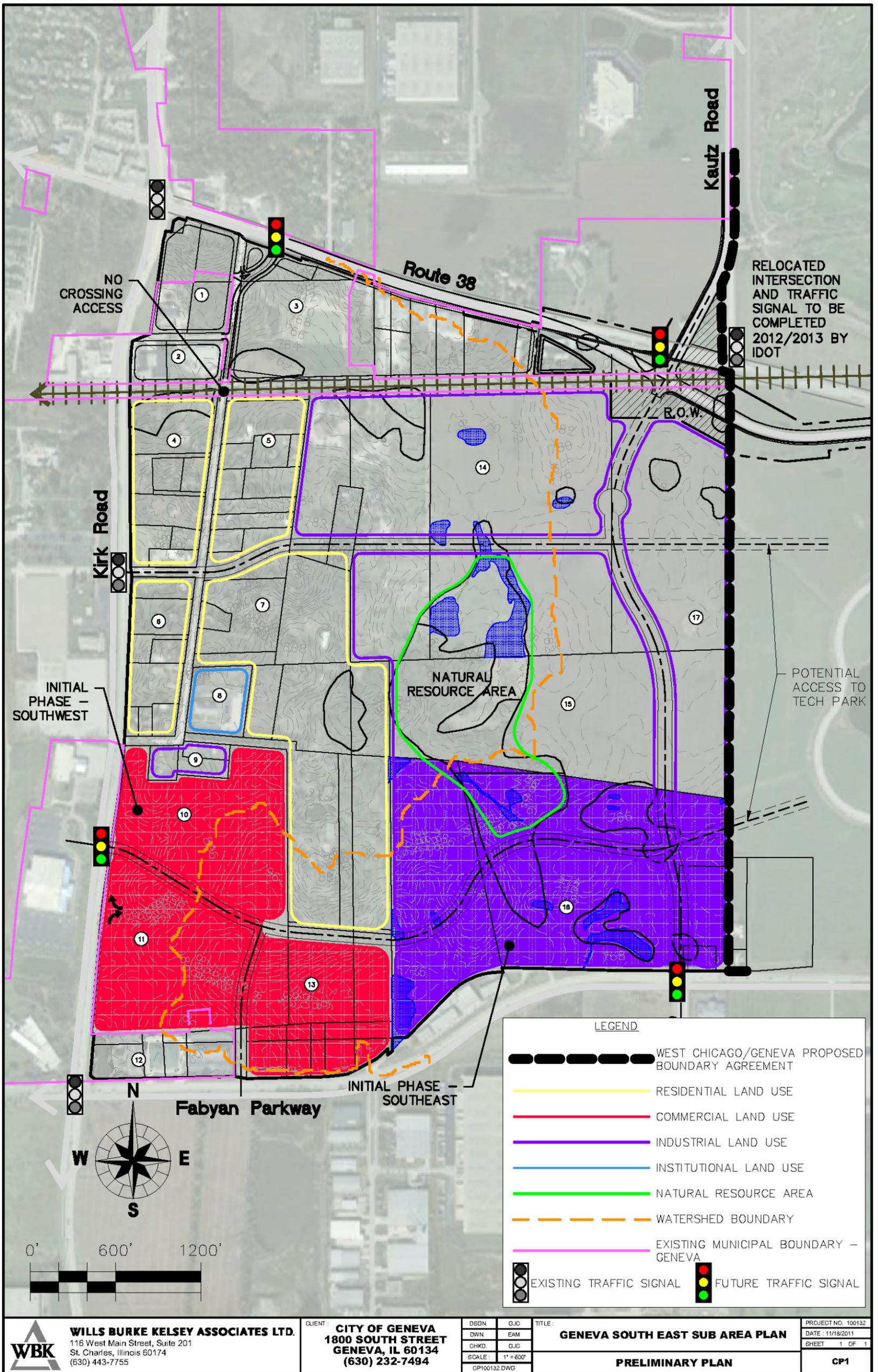
1. Combined Sewer Overflow (CSO) Rehabilitation Category

- Maximum IGIG amount is \$3,000,000 or 85% of the eligible project cost, whichever is lower.
 - Minimum local match requirement is 15%.
 - Illinois EPA anticipates awarding up to 10 of these grants per year
 - Typical grant range is \$300,000 - \$3,000,000 of IGIG funds (total grant funds available \$3 million)
 - Project length ranges from 6-36 months
2. Stormwater Retention and Infiltration Category
- Maximum IGIG amount is \$750,000 or 75% of the eligible project cost, whichever is lower.
 - Minimum local match requirement is 25%.
 - Illinois EPA anticipates awarding up to 18 of these grants per year
 - Typical grant range is \$100,000 - \$750,000 of IGIG funds (total grant funds available \$1.8 million)
 - Project length ranges from 6-36 months
3. Green Infrastructure Small Projects Category.
- Maximum IGIG amount is \$75,000 or 75% of the eligible project cost, whichever is lower.
 - Minimum local match requirement is 25%.
 - Illinois EPA anticipates awarding up to 13 of these grants per year
 - Typical grant range is \$15,000 - \$75,000 of IGIG funds (total grant funds available \$200,000)
 - Project length ranges from 6-24 months

Certain elements of the project could qualify as IGIG eligible if the design approach was innovative and supported the goals of the program. Innovative approaches may result in larger capital and maintenance costs than conventional design and construction methods.



<h2>Geneva South East Sub Area Plan</h2> <h3>City Of Geneva</h3> <p>Sheet 1 of 1</p>		<p>WBK</p>	<p>Dated: August 17, 2012</p> <p>Drawing Number: 10-067 C1</p> <p>© 2010 Land Vision, Inc.</p>
<p>Engineer Walt Bate Kelly Associates LTD 114 West Main Street, Suite 201 St. Charles, Illinois 60174 P: (630) 445-1253</p>	<p>Land Planner Land Vision, Inc. 114 West Main Street, Suite 200 St. Charles, Illinois 60174 P: (630) 584-0391</p>		



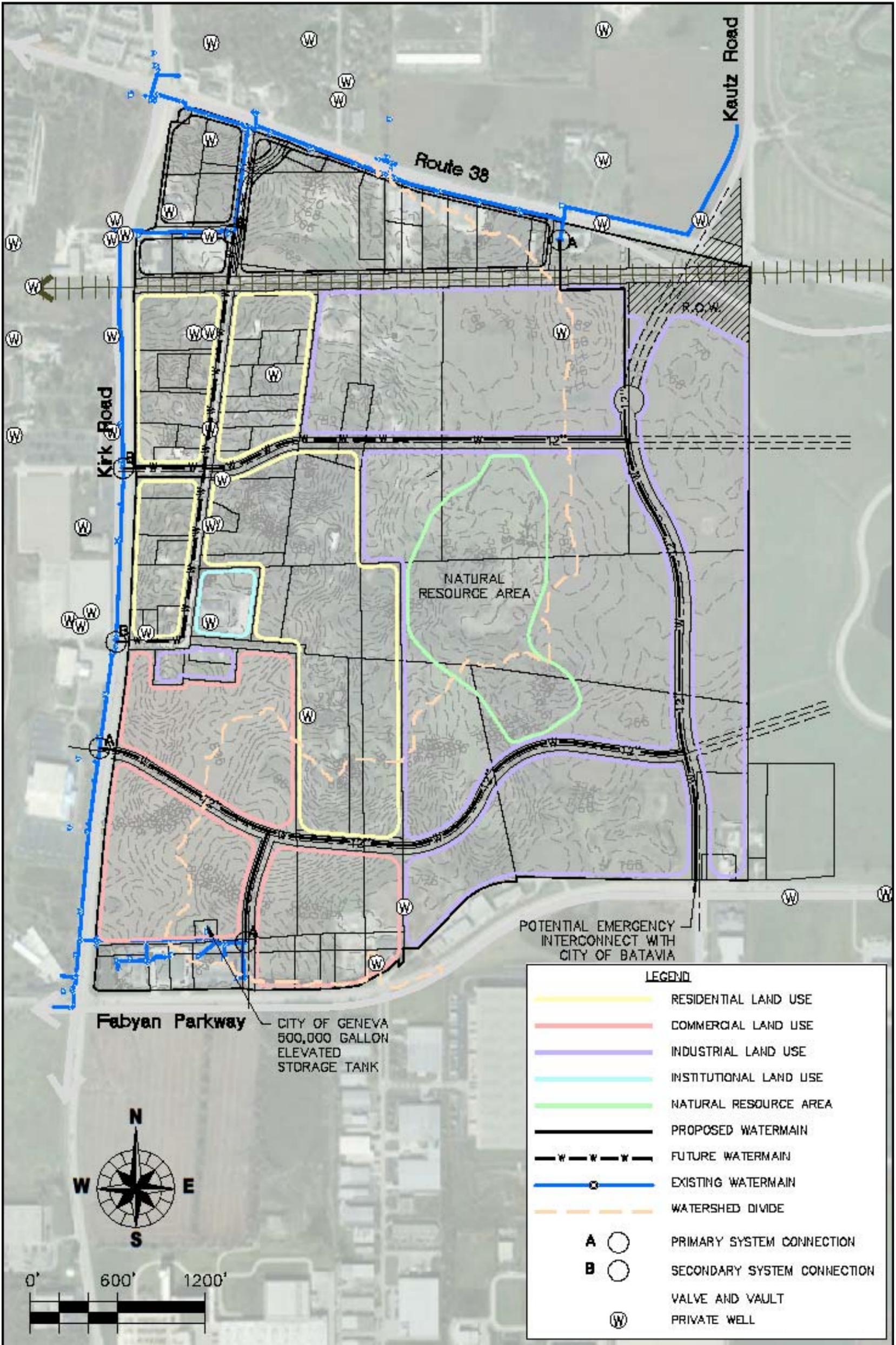
WILLS BURKE KELSEY ASSOCIATES LTD.
116 West Main Street, Suite 201
St. Charles, Illinois 60174
(630) 443-7755

CLIENT: CITY OF GENEVA
1800 SOUTH STREET
GENEVA, IL 60134
(630) 232-7494

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DRAWN: EAM
CHECKED: GJC
SCALE: 1" = 600'
DP100132.DWG

TITLE: GENEVA SOUTH EAST SUB AREA PLAN
PRELIMINARY PLAN

PROJECT NO. 100132
DATE: 11/18/2011
SHEET 1 OF 1
CP1



LEGEND	
	RESIDENTIAL LAND USE
	COMMERCIAL LAND USE
	INDUSTRIAL LAND USE
	INSTITUTIONAL LAND USE
	NATURAL RESOURCE AREA
	PROPOSED WATERMAIN
	FUTURE WATERMAIN
	EXISTING WATERMAIN
	WATERSHED DIVIDE
A	PRIMARY SYSTEM CONNECTION
B	SECONDARY SYSTEM CONNECTION
	VALVE AND VAULT
	PRIVATE WELL

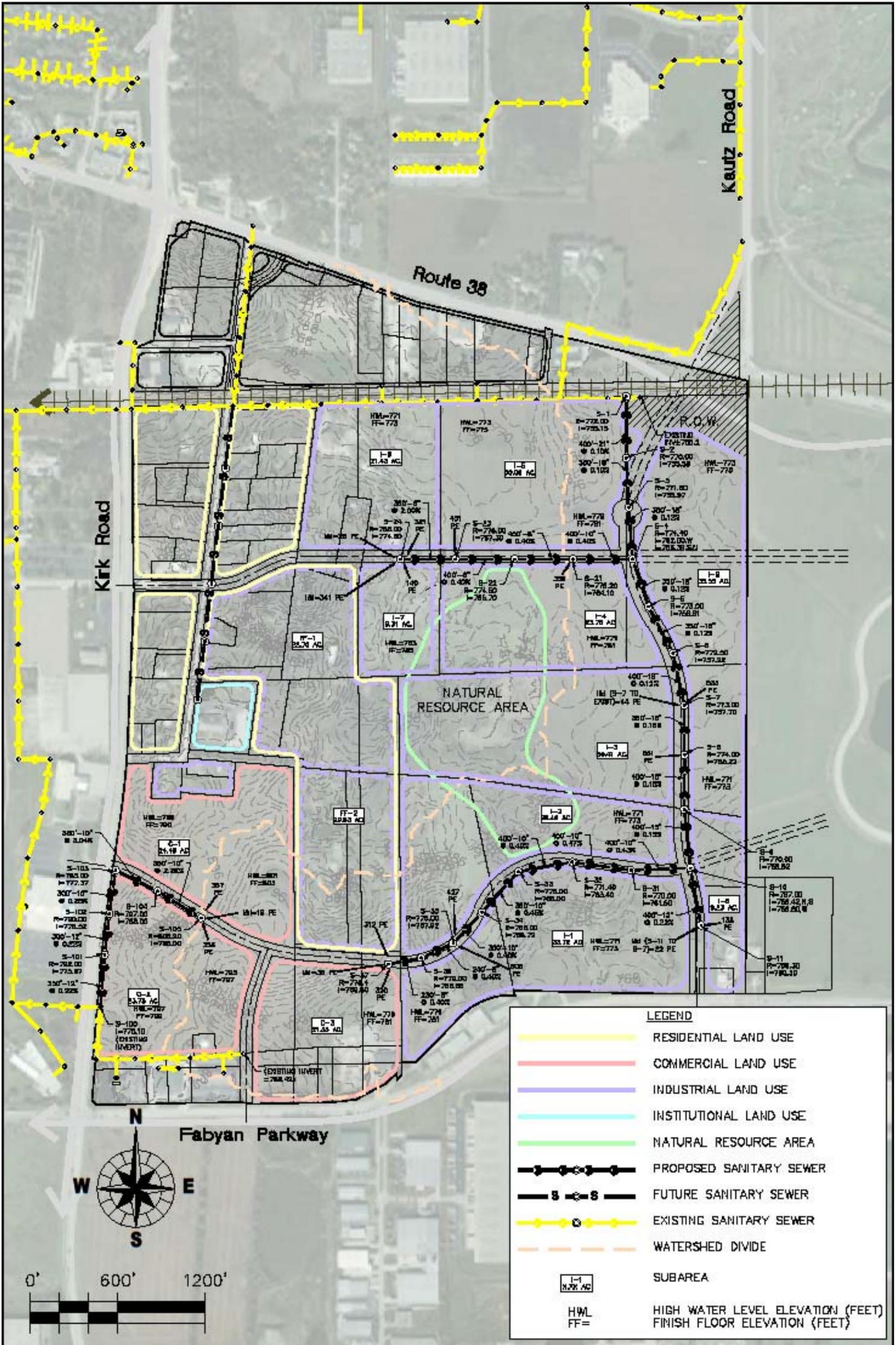
WBK
WILLS BURKE KELSEY ASSOCIATES LTD.
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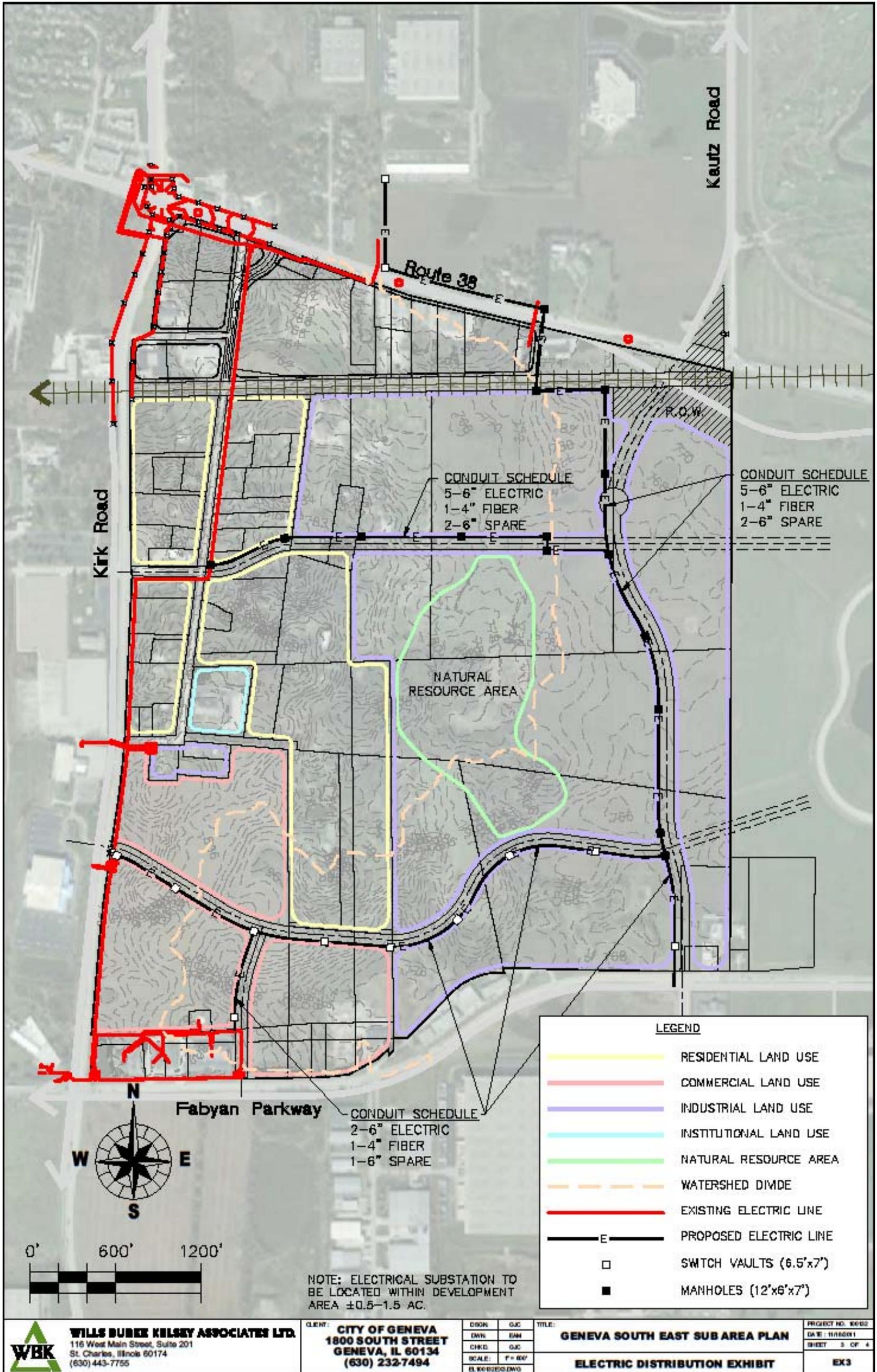
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WATERMAIN EXHIBIT

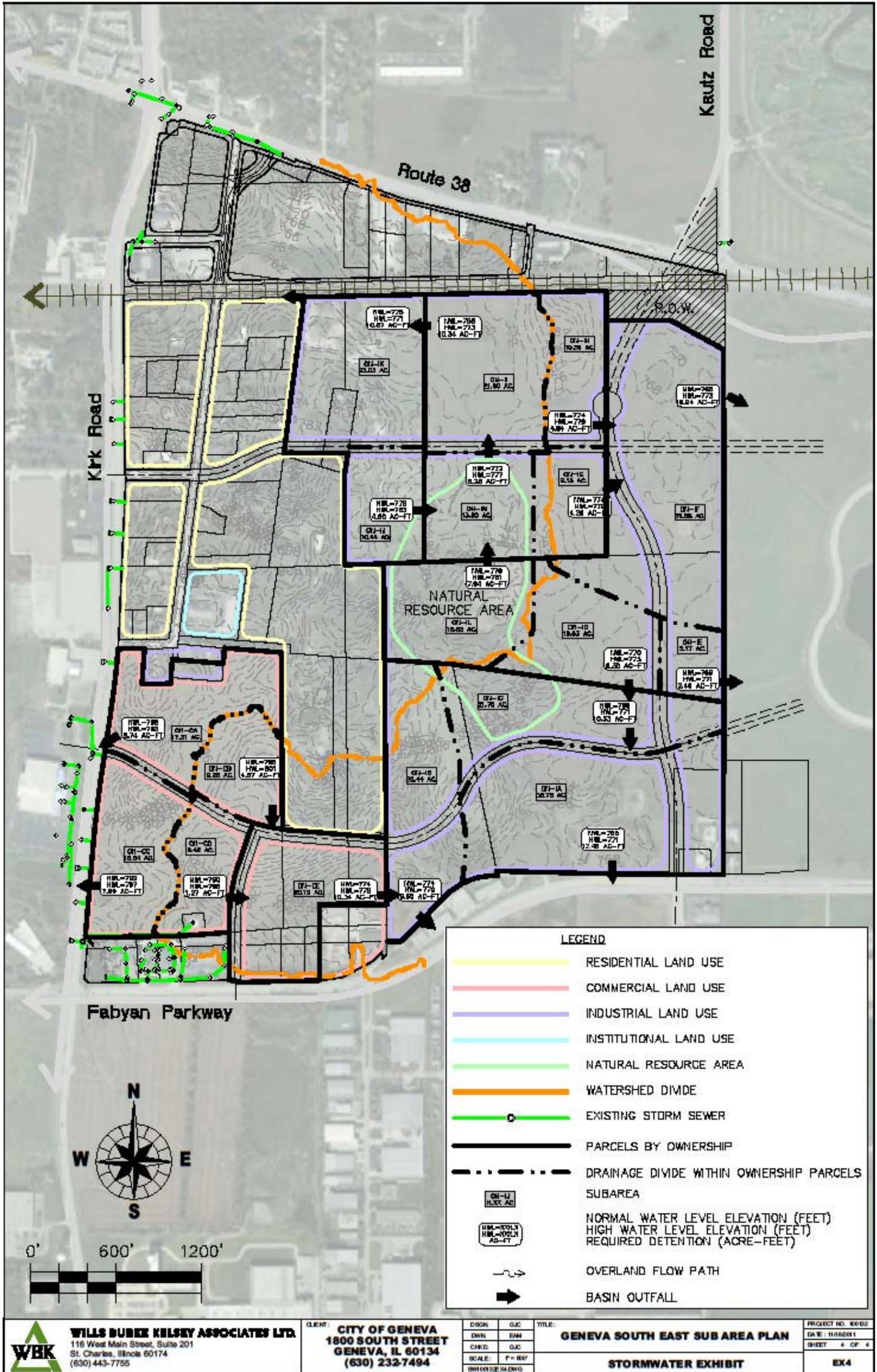
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 DATE: 11/20/01
 SHEET 1 OF 4
EX1



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				EX3



LEGEND	
	RESIDENTIAL LAND USE
	COMMERCIAL LAND USE
	INDUSTRIAL LAND USE
	INSTITUTIONAL LAND USE
	NATURAL RESOURCE AREA
	WATERSHED DIVIDE
	EXISTING STORM SEWER
	PARCELS BY OWNERSHIP
	DRAINAGE DIVIDE WITHIN OWNERSHIP PARCELS SUBAREA
	NORMAL WATER LEVEL ELEVATION (FEET) HIGH WATER LEVEL ELEVATION (FEET) REQUIRED DETENTION (ACRE-FEET)
	OVERLAND FLOW PATH
	BASIN OUTFALL

WBK
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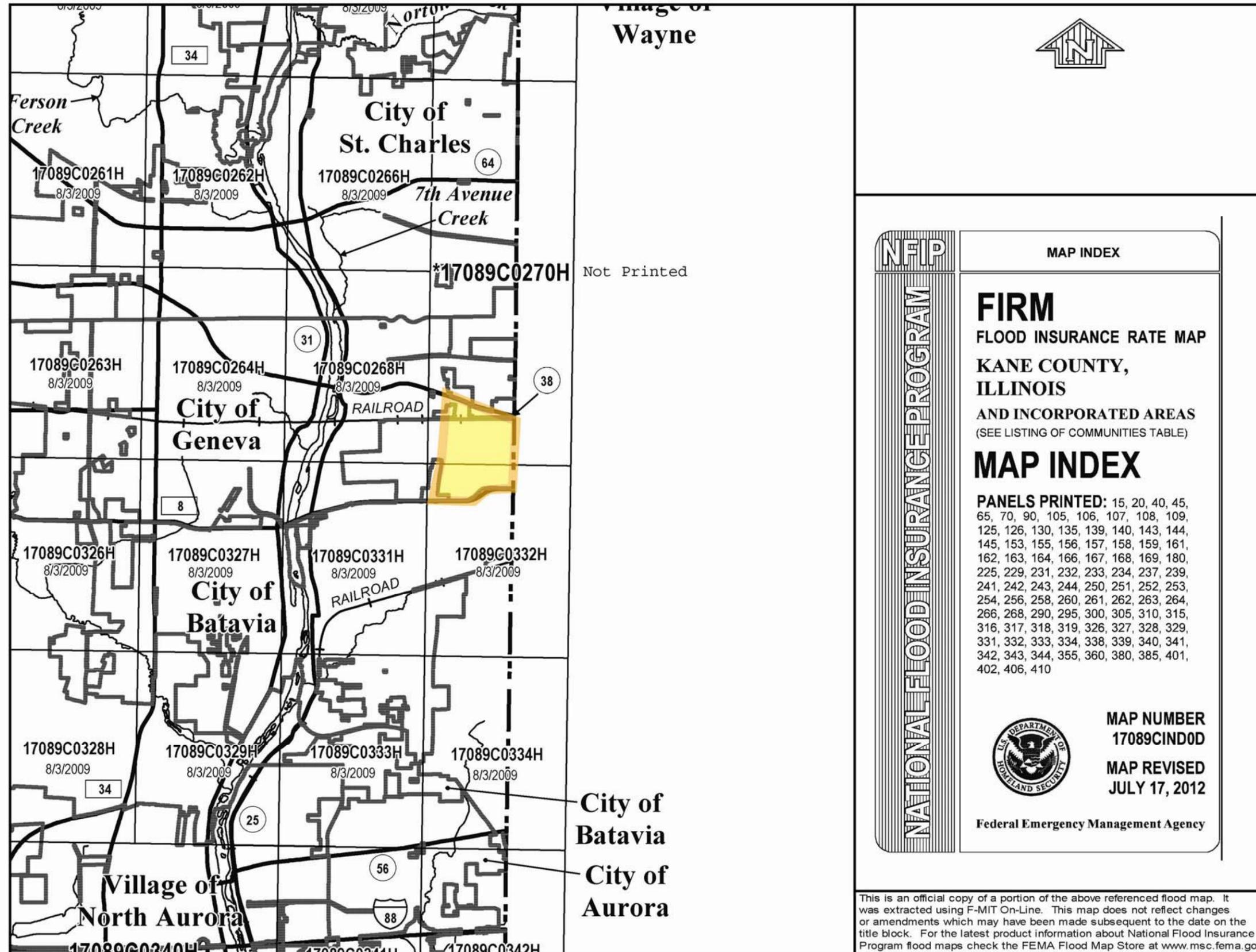
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 1800 SOUTH STREET
 GENEVA, IL 60134
 (630) 232-7494

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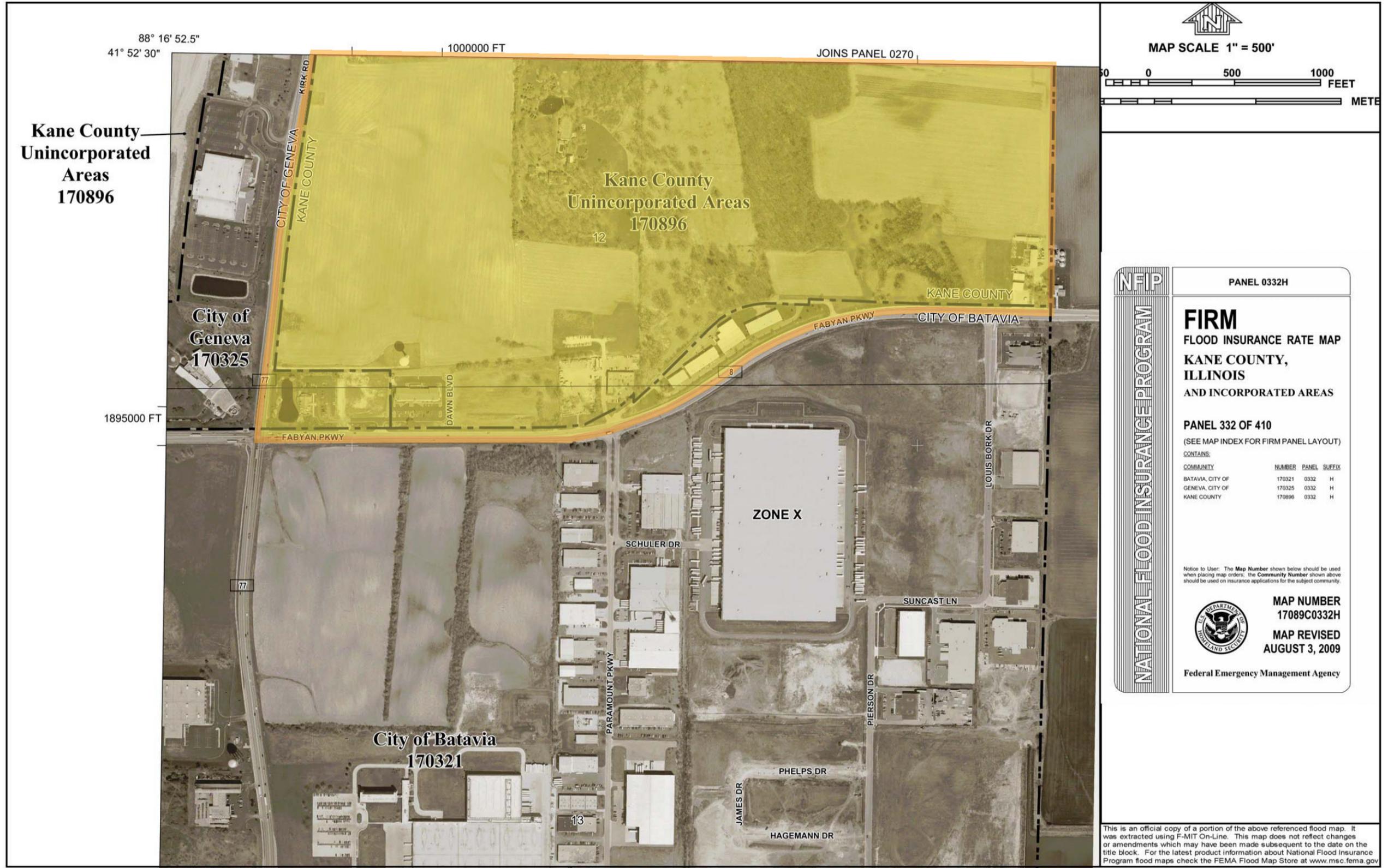
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STORMWATER EXHIBIT

PROJECT NO. 8062
 DATE: 11/20/01
 SHEET: 4 OF 4
EX4

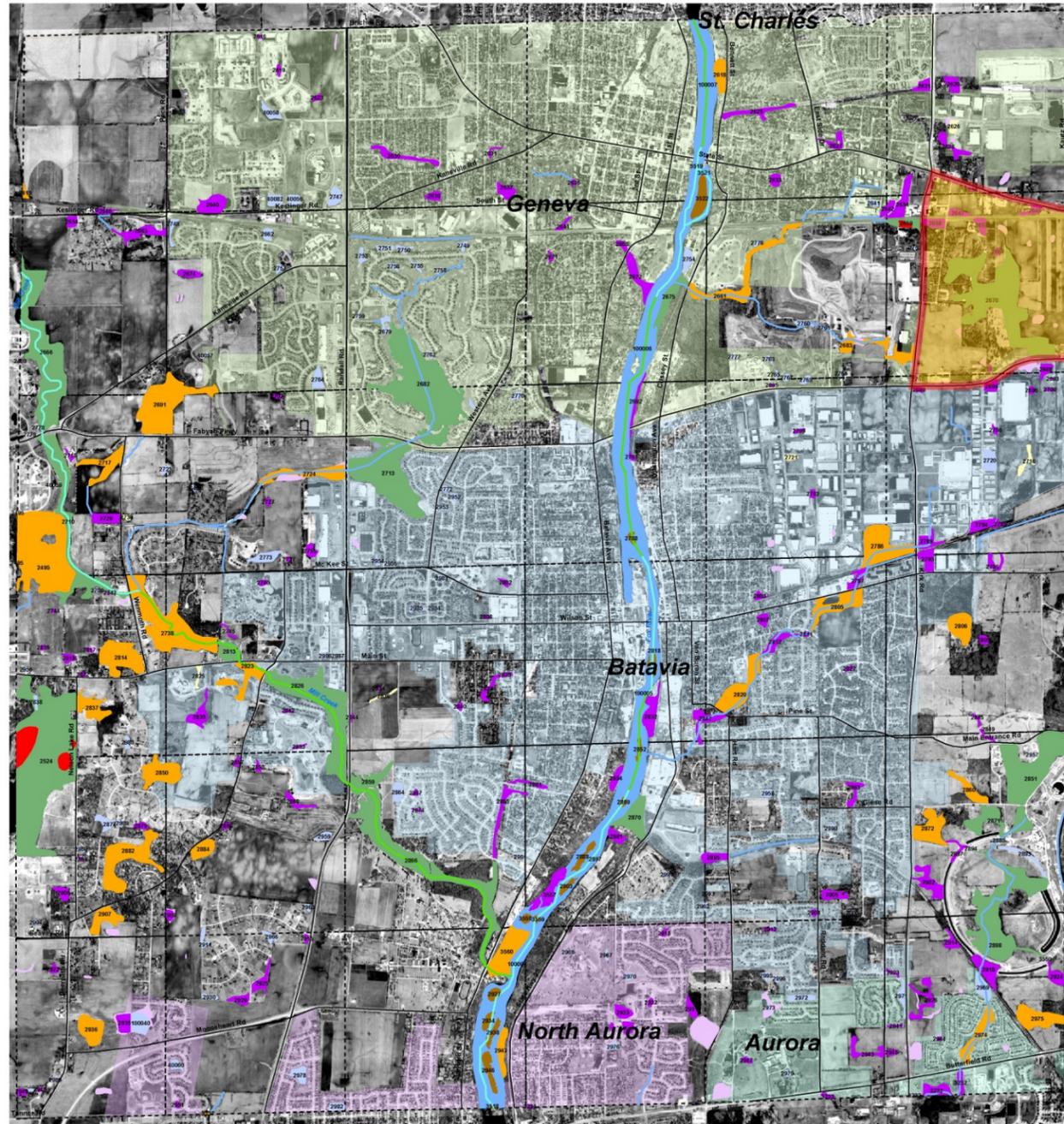
Appendix C - FEMA Maps, NWI Maps, County ADID Maps



Appendix C - FEMA Maps, NWI Maps, County ADID Maps



Kane County Advanced Identification of Aquatic Resources (ADID) Geneva and Batavia Townships



Kane County Townships

Hampshire	Rutland	Dundee
Burlington	Plato	Elgin
Virgil	Campton	St Charles
Kaneville	Blackberry	Geneva
Big Rock	Sugar Grove	Aurora

- Map Sections
- Expressways
- Major Roads
- Rivers, Streams, and Ditches**
- Biological Stream Characterization**
- High Quality
- C,D, and E Quality
- Unrated
- Wetland Type**
- High Habitat Value
- High Functional Value
- Wetland
- Natural Open Water and Fox River
- Artificial Ponds
- ADID Farmed Wetlands
- Islands
- Fens
- NRCS Farmed Wetlands

This map was produced under the Advanced Identification (ADID) Program of the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. Descriptions of the wetland inventory methodology and the wetland and stream designation criteria are available in the Kane County ADID Study Methodology.

The wetland boundaries shown are not jurisdictional delineations.
 Note: Although the aerial photography displayed on this map was taken in 2001, the ADID data was based on aerial photography taken in 1996-1998 and then updated with photography from 2000. For this reason some features present on the 2001 photography may not be reflected in the ADID data.

Date of Map Creation: August 30, 2004
 L. Barghusen, Senior Environmental Analyst

Watersheds and Non-point Source Programs Branch
 Region 5
 U.S. Environmental Protection Agency

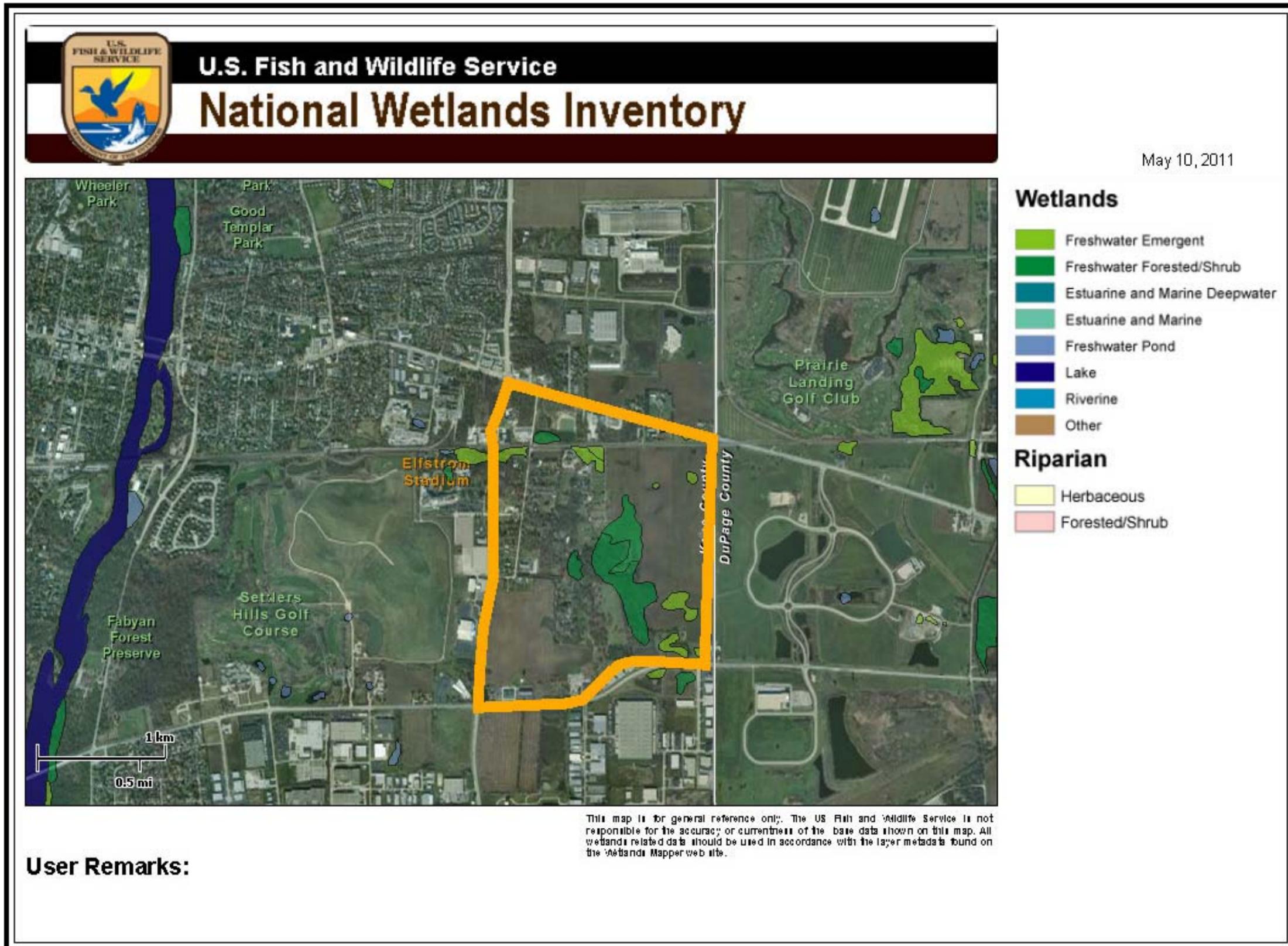


Regulatory Branch
 U.S. Army Corps of Engineers



0 0.25 0.5 1 Miles





Appendix D – Concept Traffic Analysis and Memo



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WILLS BURKE KELSEY ASSOCIATES

MEMORANDUM

To: File **Date:** July 31, 2012
From: Kevin Anderson
Project: Southeast Sub-Area, Geneva
Subject: Traffic Considerations

A planning level traffic impact study for the Southeast Sub-Area in Geneva was prepared. This area is generally bound by Kirk Road, Fabyan Parkway, the County line, and Illinois Route 38. The purpose of this study was to determine what kinds of roadway improvements might be necessary to accommodate the traffic that would be generated by the proposed land uses on the site.

SUMMARY OF DATA COLLECTION

Morning and afternoon peak hour turning movement counts were obtained at Kirk Road at Fabyan Parkway and Fabyan Parkway at Bork Drive. The intersection of Kirk Road and Fabyan Parkway is the highest volume intersection that is within the study area. The counts at these intersections were obtained primarily to evaluate the extent of intersection improvements that would be required to accommodate the site generated traffic. The secondary purpose was to estimate the directional trip distribution of the proposed site. Traffic at the Kirk Road intersections at the Ice Rink entrance and at Cherry Lane were not obtained because the existing traffic at these locations would be insignificant compared to the traffic to be generated by the development of the study area. In addition to the turning movement counts, the existing ADTs were obtained from the KDOT ADT map from their web site. IDOT ADTs, which tend to be lower than KDOT ADTs have also been collected. The ADTs shown on **Exhibit A** reflect KDOT's ADTs.

TRIP GENERATION

The trip generation of the proposed land uses was estimated using tables in the *ITE Trip Generation Manual*. The tables provide estimates for trips generated per 1000 square feet of leasable floor area depending on the land use. Figures for trips generated on an average weekday, morning peak hour, and afternoon peak hour are provided including the percentage inbound and outbound for the given interval.

Because the *ITE Trip Generation Manual* does not have tables for general industrial or general commercial land uses, averages of multiple land use codes were utilized to develop trip generation rates for the industrial and commercial parcels in this study. It was assumed that the industrial parcels on the site would host the following *ITE Trip Generation Manual* land uses: General Light Industrial (ITE Code 110), Industrial Park (130), Manufacturing (140), and Warehousing (150). It was assumed that the commercial parcels on the site would host the following *ITE Trip Generation Manual* land uses: Shopping Center (820), Building Materials and Lumber (812), Free-Standing Discount Superstore (813), Specialty Retail Center (814), Free-Standing Discount Store (815), Discount Supermarket (854), Electronics Superstore (863), and Pharmacy with Drive Through. Though not all of these individual

Appendix D – Concept Traffic Analysis and Memo



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categories may be included in the final development, the combination of these land uses should provide reasonable estimates for trip generation rates for the purposes of this study. Table 1 summarizes the trip generation rates for the proposed land uses within the study area that are based on the trip generation rates obtained from the *ITE Trip Generation Manual*.

TABLE 1 - TRIP GENERATION BY PROPOSED LAND USE

LAND USE	TRIPS PER 1000 S.F. OF FLOOR AREA						
	Weekday (ADT)	Morning Peak Hour			Afternoon Peak Hour		
		Trips	Pct. In	Pct. Out	Trips	Pct. In	Pct. Out
COMMERCIAL	27.0	0.72	60%	40%	2.40	50%	50%
INDUSTRIAL	6.0	0.75	80%	20%	0.75	25%	75%

• The figures exclude "pass-through" trips by vehicles already in the roadway network making an intermediate stop within the development (40% Commercial / 0% Industrial).

The values in Table 1 were used to estimate trip generation of the proposed parcels within the study area. The trips shown reflect a 40% reduction to account for anticipated "pass-through" traffic which are trip ends associated with vehicles that would have driven past the site whether or not the site is developed. This includes commuters who find this site to be a convenient location to stop to run an errand or to carry out fast food. The 40% reduction also factors vehicles associated with multiple stops within the site. Table 2 summarizes the Trip Generation by Parcel.

TABLE 2 - TRIP GENERATION BY PARCEL

PARCEL	AREA (ACRES)	FLOOR AREA RATIO	FLOOR AREA (1000 S.F.)	TRIPS					
				WEEKDAY (ADT)	MORNING PEAK		AFTERNOON PEAK		
					In	Out	In	Out	
COMMERCIAL	C-1	24.46	0.25	266	7,200	115	75	320	320
	C-2	23.73	0.25	258	7,000	110	75	310	310
	C-3	21.33	0.25	232	6,300	100	65	280	280
	SUB-TOTAL	69.52		756	20,500	325	215	910	910
INDUSTRIAL	I-1	33.72	0.30	441	2,600	265	65	85	250
	I-2	28.46	0.30	372	2,200	225	55	70	210
	I-3	18.47	0.30	241	1,400	145	35	45	135
	I-4	10.70	0.30	140	800	85	20	25	80
	I-5	30.09	0.30	393	2,400	235	60	75	220
	I-6	21.43	0.30	280	1,700	170	40	55	160
	I-7	9.31	0.30	122	700	75	20	25	70
	I-8	9.23	0.30	121	700	75	20	25	70
	I-9	35.55	0.30	465	2,800	280	70	85	260
	SUB-TOTAL	196.96		2,575	15,300	1,555	385	490	1,455
TOTAL	266.48		3,331	36,000	1,880	600	1,400	2,365	

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The parcel boundaries shown in the exhibits, especially the industrial parcels, are approximate and are subject to change depending on what suits the ultimate developer and the final proposed shape of the area to be reserved for open space. Therefore, the areas of the individual parcels listed in **Table 2** should be considered approximations.

It should be noted that alternative, non-commercial, land uses for Parcel C-3 are also being considered. The site may be appropriate for uses such as light industrial, office, or recreational. For the purposes of this study, Parcel C-3 will be considered commercial, which is the conservative approach in terms of traffic impacts.

In summary, the site will generate an estimated additional 36,000 trip ends on the average weekday. Of which, approximately 2,500 trip ends will be during the morning peak hour and approximately 3,800 trip ends will be during the afternoon peak hour.

DIRECTIONAL TRIP DISTRIBUTION

The directional trip distribution of site generated traffic was based on the existing turning movement counts at Kirk Road and Fabyan Parkway and the ADTs of the surrounding streets. The directional split is approximately 25% to and from the north, 30% to and from the south, 25% to and from the west, and 20% to and from the east.

TRAFFIC ASSIGNMENT

The turning movements on the surrounding roadway network associated with the site were estimated by determining the shortest routes to and from each parcel to and from each of the directions. In cases where multiple routes of similar length are proposed, trips were assigned accordingly. The trips were assigned based on the assumption that the proposed entrance opposite the Ice Arena on Kirk Road and the intersection of Fabyan Parkway and Bork Drive would become signalized. In addition, it was assumed that Cherry Lane would continue to be signalized. Due to its proximity to Kirk Road (Dawn Blvd.), the proposed entrance to the site on Fabyan Parkway approximately 1200 feet east of Kirk Road would not become signalized. Due to the anticipated delay for southbound left turns, it was expected that most southbound to eastbound movements would utilize the Bork Drive intersection. See Development Traffic by Turning Movement Exhibits for these turning movements. **Exhibits A, B, and C** depict the estimated trips to be generated by the proposed development in terms of ADT, morning peak hour, and afternoon peak hour, respectively. Note that the use of right-in / right-out access was not evaluated because their locations would be dependent on the specific site plan. It is expected that right-in / right-out access would be appropriate for this site, especially near the commercial areas, but their use would be subject to the approval of the County. It should be expected that the appropriate use of right-in / right-out access would improve the operations of the signalized intersections serving the site.

KAUTZ ROAD EXTENSION

To help gain a sense of how an extension of Kautz Road would affect the development site and the surrounding roadway network, projections for 2016 and 2040 ADT of the proposed extension was obtained from the Chicago Metropolitan Agency for Planning. Though CMAP normally refrains from providing projections for "build year" scenarios, they honored the request and provided one (2016). Their models project an ADT for Kautz Road of 4,700 vehicles per day in 2016 and 7,000 vehicles per

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day in 2040 (see **Exhibit D**). It should be noted that CMAP's models are intended for regional level planning rather than site specific planning. Though the CMAP projections have assumed at least portions of the site will have been developed by 2040, specifics such as the proposed land use and the internal roadway network shown in the exhibits are not factored into the CMAP model. Based on the CMAP figures provided and the ADTs shown on Exhibit A, it is reasonable to conclude that CMAP's 2040 projections for a Kautz Road extension may be low.

A detailed evaluation of a possible Kautz Road extension from Illinois Route 38 to Fabyan Parkway is beyond the scope of this study. Therefore, only general conclusions regarding the possible extension of Kautz Road are presented in the next section.

SUMMARY OF CONCLUSIONS

Due to the limited scope of the analysis, only broad conclusions regarding the proposed development can be made. It appears that the surrounding roadway network can be expanded to accommodate the extra traffic that would be generated if the study area is developed similar to what is shown in **Exhibit A**. It should be noted that an acre of commercial land would generate approximately 4 times the traffic as an acre of industrial land.

Kirk Road at Fabyan Parkway Intersection Improvements- The Kane County Division of Transportation (KDOT) is about to initiate an engineering study for improvements at this intersection. Based on the similar ADTs, it is expected that that study will conclude that the minimum improvements that would be necessary would be similar to the now almost completed capacity improvements at Fabyan Parkway at Randall Road. If the KDOT study follows customary procedures, 2040 traffic projections will be acquired from the Chicago Metropolitan Agency for Planning (CMAP) and capacity improvements will be designed to accommodate that level of traffic. Usually, CMAP 2040 traffic projections take into account that at least some of the surrounding undeveloped land will be developed by 2040. Therefore, it is probable that the KDOT study will result in intersection improvements that will accommodate at least some of the development traffic, but it should be expected that additional improvements will be necessary. Due to the uncertainty of what intersection improvements are likely to be included with KDOT's study, it is difficult to predict exactly what extent this intersection will be impacted by the development of this site.

Cherry Lane Extension- A connection to Cherry Lane is strongly recommended to serve Parcels I3, I-4, I-5, I-6, I-7 and I-9. Cul-de-sacs longer than 1000 feet are uncommon. Additionally, the ADT of the resulting cul-de-sac would be on the order of 10,000 vehicles per day, a volume not normally associated with cul-de-sacs. Providing a loop road instead may be considered, but the resulting volume at the proposed entrance opposite the Ice Arena would be approaching the point where the entrance would cause significant delays for Kirk Road traffic.

Entrance at Fabyan 1200 feet East of Kirk Road (Dawn Blvd.)- The traffic volumes shown in the exhibits are based on the assumption that this intersection would not be signalized. Though it is relatively close to Kirk Road, it is far enough away that signalization of this intersection is not out of the question. The high volume on Fabyan Parkway would make left turns out of this entrance very difficult during peak periods without traffic signals. Right turns out would be possible, but would be subject to delays. Eastbound left turns into the site would not involve significant delays, however, if the County proposed 3 lanes on Fabyan Parkway, it is unlikely that the County will allow unprotected left turns at this location. If this movement is not allowed, it would increase the delay at the other intersections in the

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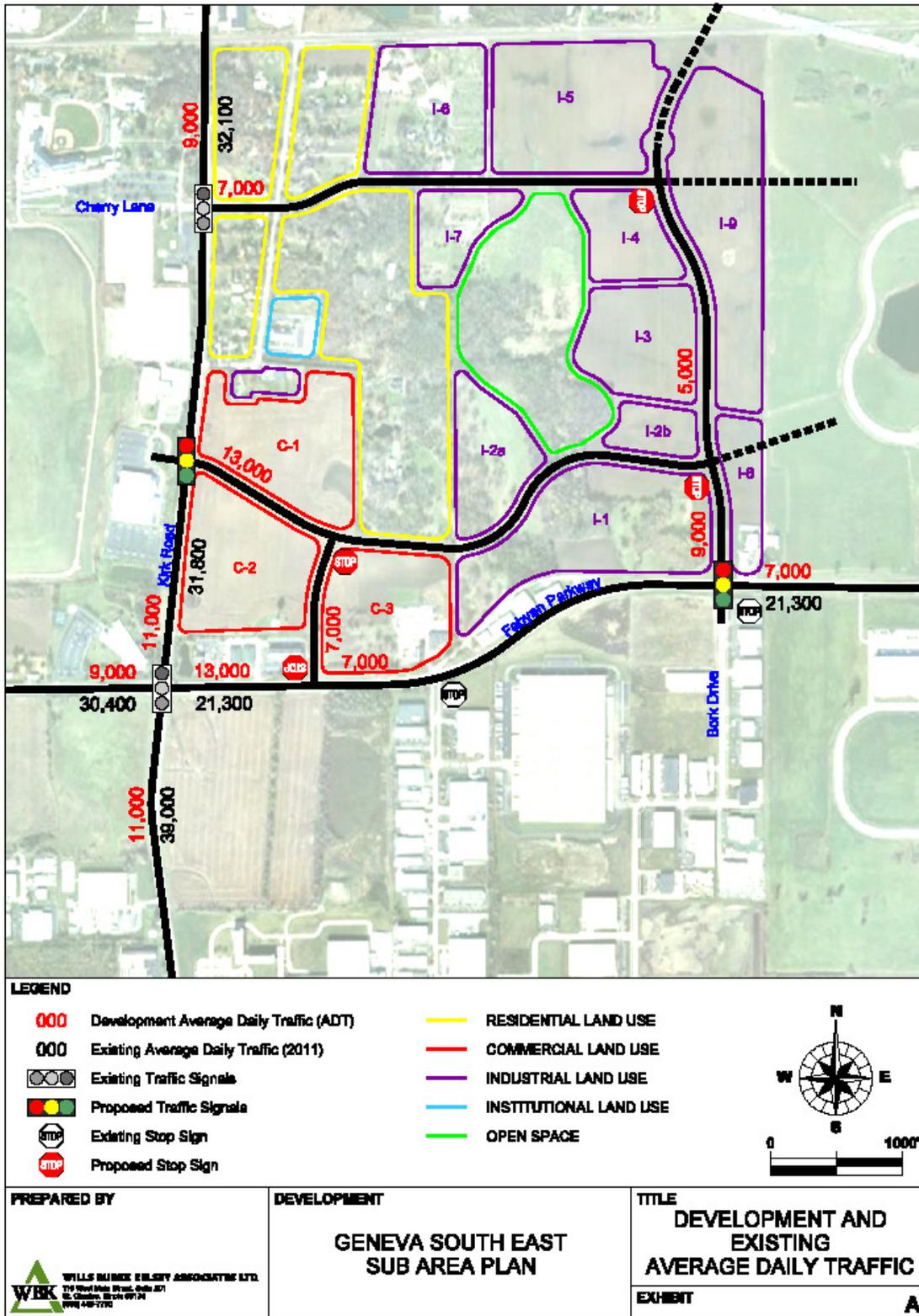
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study area. Therefore, it may be possible to demonstrate to KDOT that the overall delay on the County highways may be reduced if this intersection were to be signalized.

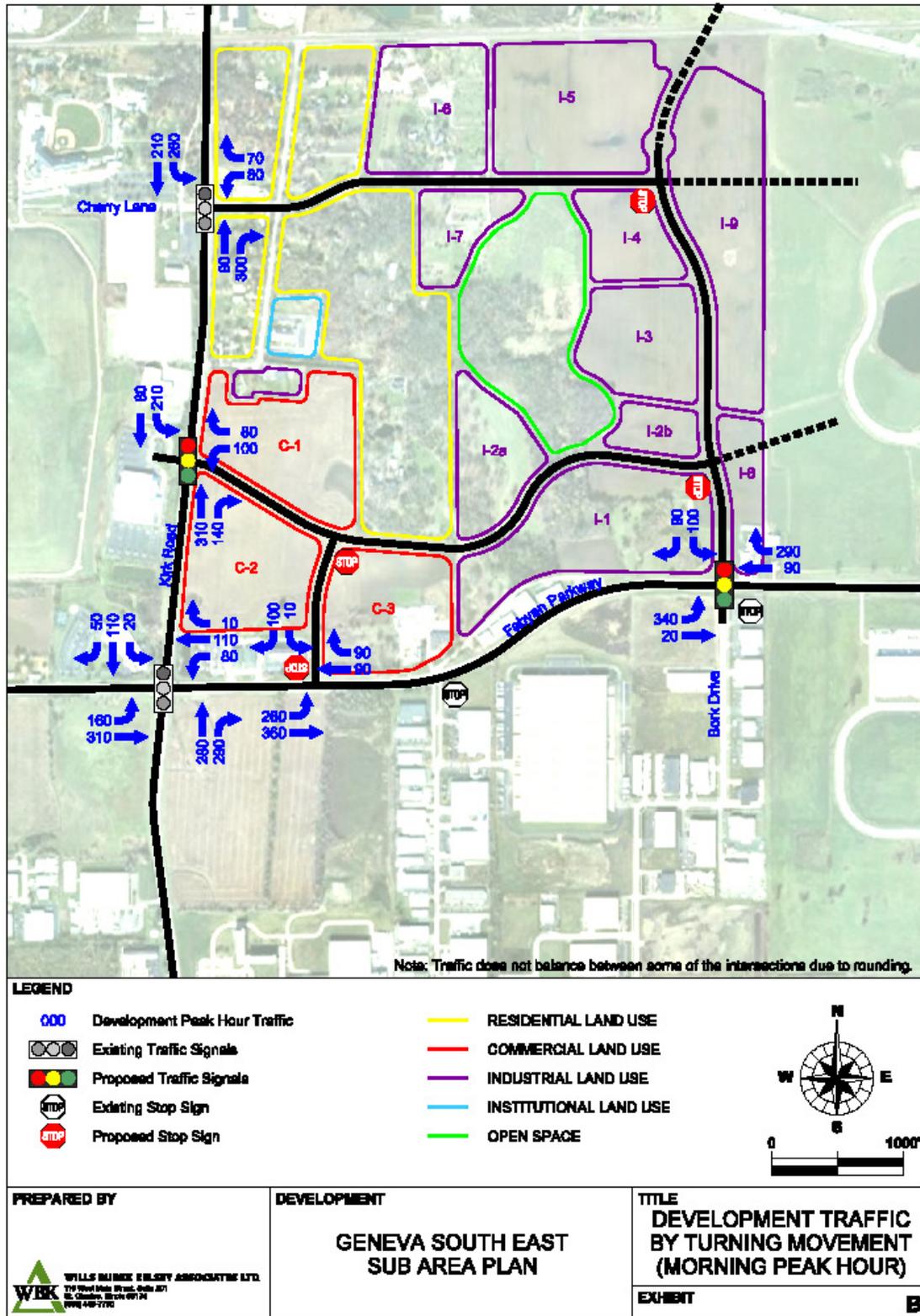
Other Entrances- The remaining entrances, all of which are to be signalized, can be designed to operate with acceptable delays on all approaches. Dual left turns for traffic departing the site will help to minimize delays on Kirk Road.

Kautz Road- Because almost no development will have occurred in the time frame, the 2016 ADT of 4,700 vehicles per day provides an estimate of how much pass through traffic there would be through the site as a result of extending Kautz Road. The extension would make the site more attractive to development, but it would also bring a substantial amount additional traffic to the intersections of Fabyan Parkway at Kirk Road and Fabyan Parkway at Kautz Road (Bork Drive). This may require additional turn lanes and possibly through lanes on Fabyan Parkway. Additionally, it is possible that the Kautz Road extension would need to be a 4-lane roadway.

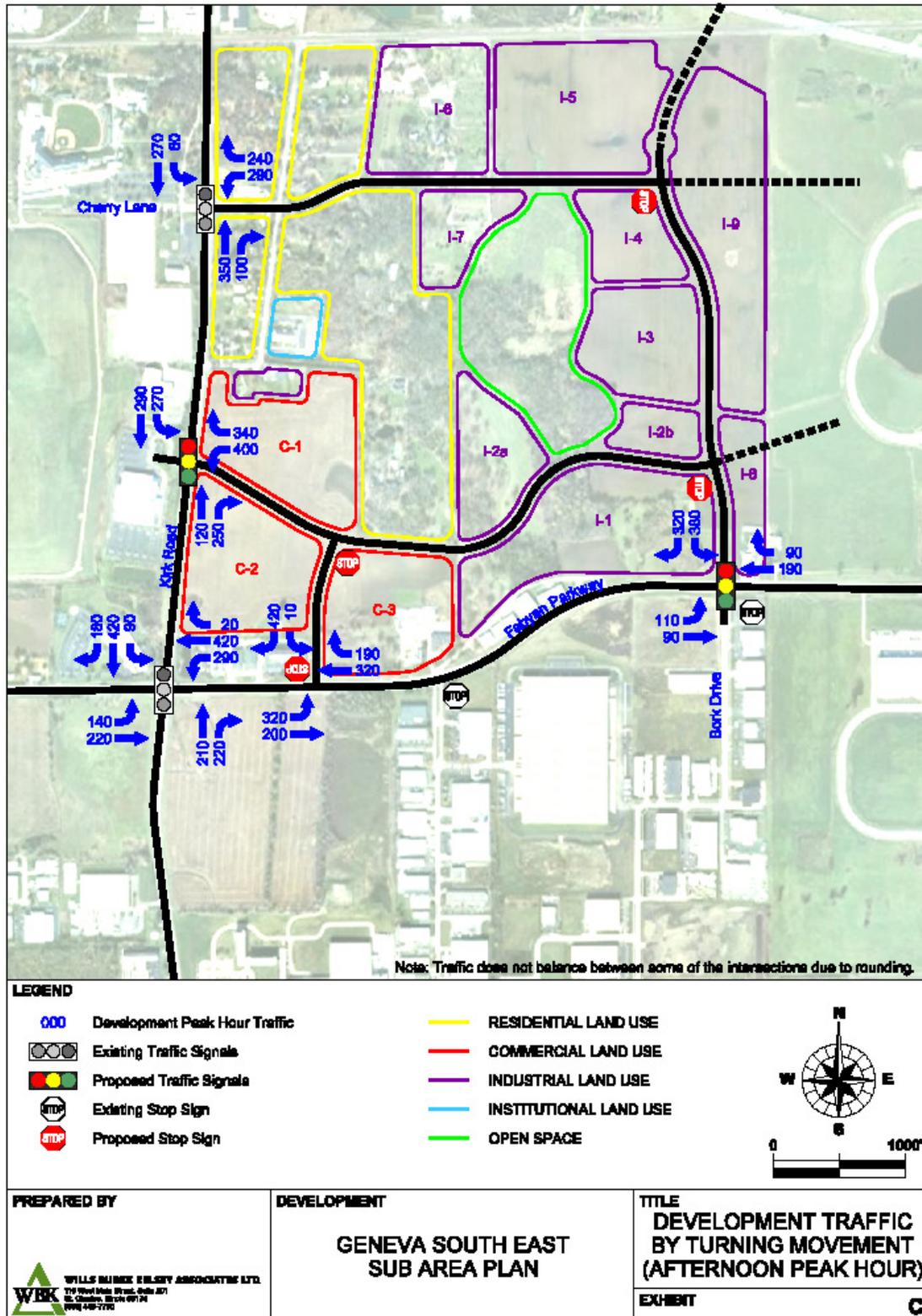
Appendix D – Concept Traffic Analysis and Memo



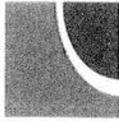
Appendix D – Concept Traffic Analysis and Memo



Appendix D – Concept Traffic Analysis and Memo



Appendix D – Concept Traffic Analysis and Memo



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February 27, 2012

Hon. Kevin Burns
Mayor
City of Geneva
22 South First Street
Geneva, IL 60134

Subject: Kautz Road Extension
City of Geneva

Dear Mayor Burns:

In response to a request made on your behalf and dated February 23, 2012, we have developed year 2040 average daily traffic (ADT) projections for the subject location.

INTERSECTION	West Leg	North Leg	East Leg	South Leg
Kautz Rd @ IL 38	29,000	16,000	32,000	7,000
Kautz Rd/Bork Dr @ Fabyan Pkwy	28,000	7,000	20,000	2,000

Please be aware that the Illinois Department of Transportation has prepared a Strategic Regional Arterial (SRA) report for Fabyan Parkway. SRA Reports include right-of-way, geometric, access and transit recommendations. The executive summaries can be found at <http://www.cmap.illinois.gov/traffic/sra-resources> with other information about the SRA system.

Traffic projections are developed using existing ADT data provided in the request letter and the results from the October 2011 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2040 socioeconomic projections and assumes the implementation of the GO TO 2040 Comprehensive Regional Plan for the Northeastern Illinois area.

If you have any questions, please call Jose Rodriguez at (312) 386-8806.

Sincerely,

Donald P. Kopec
Deputy Director for Planning and Programming

cc: Anderson (Wills Burke Kelsey)
M:\proj\1\ceb\forecasts\2012 Response\ka-02-12.docx

Exhibit D

Appendix D – Concept Traffic Analysis and Memo

Kevin Anderson

From: Jose Rodriguez <JRodriguez@cmap.illinois.gov>
Sent: Thursday, March 01, 2012 3:53 PM
To: Kevin Anderson
Subject: RE: Kautz Road Extension - Nearest Year Estimate of ADT

For year 2016, the Kautz Rd extended segment has an ADT of 4,700.

Exhibit D

Appendix E – Concept Estimate of Infrastructure Cost

WBK

CONCEPT PLAN
ENGINEER'S OPINION OF
PROBABLE CONSTRUCTION COST

PROJECT: **GENEVA SOUTH EAST SUBAREA**
LOCATION: **Geneva, IL**
PROJECT NO.: **10-0132**

CLIENT :

DATE PREPARED: 1/30/2012
LAST REVISED: 2/16/2012
PREPARED BY: JCG
CHECKED BY: GC

THE PRICES USED IN THIS LIST ARE BASED ON THE AVERAGE PRICES FROM CONTRACTS WITHIN THE LAST 3 YEARS YEAR BY WBK FOR SIMILAR PROJECTS AND/OR AVAILABLE MATERIAL & LABOR COST DATA FROM IDOT. SOME UNIT PRICES HAVE BEEN ADJUSTED TO ALLOW FOR SPECIAL CONDITIONS.

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Appendix E – Concept Estimate of Infrastructure Cost

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Engineer's Opinion of Probable Construction Cost ALL IMPROVEMENTS

ITEM		QNTY	UNIT	UNIT PRICE	AMOUNT
<u>A. Demolition & Debris Removal</u>					
1. DRAIN TILE REMOVAL		1,500	L.F.	9.00	13,500
2. TREE CLEARING AND GRUBBING	ROADWAY AND BASINS	54	AC	5,000.00	270,000
3. WELL ABANDONMENT		2	EACH	2,000.00	4,000
				Sub-Total =	\$ 287,500
<u>B. Earthwork Improvements</u>					
1. TOPSOIL	STRIP, TO STOCKPILE	281,380	S.Y	0.80	209,104
2. TOPSOIL	RESPREAD	174,300	S.Y	1.00	174,300
3. EARTH EXCAVATION	BASINS	219,900	C.Y.	12.00	2,638,800
4. EARTH EXCAVATION	ROADWAY, 37" Wide x 2' Thick (b/c to b/c)	33,040	C.Y.	12.00	396,480
				Sub-Total =	\$ 3,418,684
<u>C. Drainage Improvements</u>					
1. 12" DIA RCP STORM SEWER	OFFSITE, LATERALS ALONG ROADWAY	1,940	L.F.	30.00	58,200
2. 15" DIA RCP STORM SEWER	OFFSITE	800	L.F.	32.00	25,600
3. 18" DIA RCP STORM SEWER	OFFSITE	2,500	L.F.	35.00	87,500
4. 24" DIA RCP STORM SEWER	ALONG ROADWAY	12,050	L.F.	45.00	542,250
5. 4' DIA MANHOLE		41	EACH	2,000.00	82,000
6. 4' DIA CATCH BASIN		41	EACH	3,000.00	123,000
7. 2' DIA INLET		41	EACH	1,000.00	41,000
8. GRANULAR TRENCH BACKFILL		160	L.F.	35.00	5,600
9. 36" RCP CULVERT	UNDER ROAD, 100 YR @ 2%	80	L.F.	75.00	6,000
10. 42" RCP CULVERT	UNDER ROAD, 100 YR @ 2%	80	L.F.	80.00	6,400
				Sub-Total =	\$ 977,550
<u>D. Roadway Improvements</u>					
1. ROADWAY SECTION, SEE DETAIL	BASE, SURFACE, BINDER, PRIME, CURB/GUTTER, PAVEMENT MARKINGS	12,050	L.F.	260.00	3,133,000
2. PCC SIDEWALK (W/AGGREGATE)	5' WIDE, BOTH SIDES OF ROADWAY	120,500	S.F.	6.00	723,000
3. FINE GRADING/BACKFILL CURBS	BOTH SIDES OF ROADWAY	24,100	L.F.	2.00	48,200
				Sub-Total =	\$ 3,904,200
<u>E1. Watermain Improvements</u>					
1. FIRE HYDRANT		37	EACH	4,000.00	148,000
2. VALVE & VALVE VAULT		14	EACH	3,500.00	49,000
3. WATERMAIN	12" DIA	14,050	L.F.	75.00	1,053,750
4. CONNECT TO EXISTING WATERMAIN	PRIMARY CONNECTION	3	EACH	5,000.00	15,000
5. CONNECT TO EXISTING WATERMAIN	SECONDARY CONNECTION	1	EACH	5,000.00	5,000
6. AUGER WATERMAIN UNDER RAILROAD (UPRR)		100	L.F.	300.00	30,000
				Sub-Total =	\$ 1,300,750
<u>E2. Watermain Improvements Existing Land Use</u>					
1. FIRE HYDRANT		10	EACH	4,000.00	40,000
2. VALVE & VALVE VAULT		3	EACH	3,500.00	10,500
3. WATERMAIN	10" DIA	3,200	L.F.	70.00	224,000
4. WATERMAIN	1" SERVICE, INCLUDES TRENCH BACKFILL	3,600	L.F.	30.00	108,000
5. CONNECT TO EXISTING WATERMAIN	SECONDARY CONNECTION	2	EACH	5,000.00	10,000
				Sub-Total =	\$ 392,500

Appendix E – Concept Estimate of Infrastructure Cost

WBK

Engineer's Opinion of Probable Construction Cost
ALL IMPROVEMENTS

<u>ITEM</u>	<u>QNTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
<u>F1. Sanitary Sewer Improvements</u>				
1. CONNECT TO EXISTING SANITARY SEWER	2	EACH	5,000.00	10,000
2. 8" SANITARY SEWER PVC PIPE	2,030	L.F.	55.00	111,650
3. 10" SANITARY SEWER PVC PIPE	2,880	L.F.	60.00	172,800
4. 12" SANITARY SEWER PVC PIPE	1,050	L.F.	65.00	68,250
5. 15" SANITARY SEWER PVC PIPE	1,150	L.F.	70.00	80,500
6. 18" SANITARY SEWER PVC PIPE	1,800	L.F.	75.00	135,000
7. 21" SANITARY SEWER PVC PIPE	400	L.F.	95.00	38,000
8. SANITARY MANHOLE - TYPE A	35	EACH	5,000.00	175,000
				VARIOUS DEPTHS
			Sub-Total =	\$ 791,200
<u>F2. Sanitary Sewer Improvements Existing Land Use</u>				
1. 8" SANITARY SEWER PVC PIPE	2,050	L.F.	55.00	112,750
2. 6" SANITARY SEWER PVC PIPE	3,600	L.F.	45.00	162,000
3. SANITARY MANHOLE - TYPE A	5	EACH	4,000.00	20,000
				SERVICE LINE, LONG
				VARIOUS DEPTHS
			Sub-Total =	\$ 294,750
<u>G. Soil Erosion Sedimentation Control</u>				
1. PERMANENT SEEDING	81.0	ACRE	3,000.00	243,000
			Sub-Total =	\$ 243,000
<u>H. Offsite Roadway</u>				
1. INTERSECTION IMPROVEMENTS - SIGNALIZED	2	EACH	500,000.00	1,000,000
2. INTERSECTION IMPROVEMENTS - UNSIGNALIZED	2	EACH	250,000.00	500,000
				ICE ARENA ENTRANCE, LOUIS BORK DR
				DAWN BLVD, CHERRY DR
			Sub-Total =	\$ 1,500,000
<u>I. Electric - Roadway Lighting Improvements</u>				
1. STREET LIGHT	81	EACH	5,000.00	405,000
2. STREET LIGHT CONDUIT / CONDUCTOR	12,050	L.F.	6.00	72,300
3. STREET LIGHT FIXTURES	81	EACH	100.00	8,100
4. ELECTRICAL TRENCH BACKFILL	12,050	L.F.	5.00	60,250
				EVERY 150 FEET
				LENGTH OF ROADWAY
			Sub-Total =	\$ 545,650
<u>J. Electric Distribution</u>				
1. SWITCH GEAR	12	EACH	2,200.00	26,400
2. MANHOLE	15	EACH	20,000.00	300,000
3. SUBSTATION	1	EACH	3,000,000.00	3,000,000
4. 750 MM MCM CU	34,600	L.F.	14.00	484,400
5. 6" DIA DUCT PACKAGE (SINGLE CKT)	5,800	L.F.	75.00	435,000
6. 6" DIA DUCT PACKAGE (DOUBLE CKT)	9,100	L.F.	100.00	910,000
				quantity from estimate provided
			Sub-Total =	\$ 5,155,800
			SUBTOTAL(Improvements A-I) =	\$18,811,584
			10% CONTINGENCY=	\$ 1,881,158
			TOTAL =	\$20,692,742

The following items are NOT included in this opinion of cost:

- Any private utilities including but not limited to phone, gas, cable, electric (other than the City of Geneva).
- Any professional fees including but not limited to engineering, planning, attorney or finance fees.
- Any permit fees or fees to mitigate wetlands or transportation impact fees
- Any consideration of hazardous or special waste removal or remediation

Appendix E – Concept Estimate of Infrastructure Cost

WBK

**Engineer's Opinion of Probable Construction Cost
INITIAL DEVELOPMENT SCENARIO - COMMERCIAL SOUTHWEST**

ITEM		QNTY	UNIT	UNIT PRICE	AMOUNT
<u>A. Demolition & Debris Removal</u>					
1. DRAIN TILE REMOVAL			L.F.	9.00	0
2. TREE CLEARING AND GRUBBING	ROADWAY AND BASINS	13	AC	5,000.00	65,000
3. WELL ABANDONMENT		1	EACH	2,000.00	2,000
				Sub-Total =	\$ 67,000
<u>B. Earthwork Improvements</u>					
1. TOPSOIL	STRIP, TO STOCKPILE	62,920	S.Y.	0.80	50,336
2. TOPSOIL	RESPREAD	31,460	S.Y.	1.00	31,460
3. EARTH EXCAVATION	BASINS	53,176	C.Y.	12.00	638,112
4. EARTH EXCAVATION	ROADWAY, 37' Wide x 2' Thick (b/c to b/c)	8,500	C.Y.	12.00	102,000
				Sub-Total =	\$ 821,908
<u>C. Drainage Improvements</u>					
1. 12" DIA RCP STORM SEWER	LATERALS ALONG ROADWAY	440	L.F.	30.00	13,200
2. 24" DIA RCP STORM SEWER	ALONG ROADWAY	3,100	L.F.	45.00	139,500
3. 4' DIA MANHOLE		11	EACH	2,000.00	22,000
4. 4' DIA CATCH BASIN		11	EACH	3,000.00	33,000
5. 2' DIA INLET		11	EACH	1,000.00	11,000
				Sub-Total =	\$ 218,700
<u>D. Roadway Improvements</u>					
BASE, SURFACE, BINDER, PRIME, CURB/GUTTER, PAVEMENT MARKINGS					
1. ROADWAY SECTION, SEE DETAIL		3,100	L.F.	260.00	806,000
2. PCC SIDEWALK (W/AGGREGATE)	5' WIDE, BOTH SIDES OF ROADWAY	31,000	S.F.	6.00	186,000
3. FINE GRADING/BACKFILL CURBS	BOTH SIDES OF ROADWAY	6,200	L.F.	2.00	12,400
				Sub-Total =	\$ 1,004,400
<u>E. Watermain Improvements</u>					
1. FIRE HYDRANT		8	EACH	4,000.00	32,000
2. VALVE & VALVE VAULT		3	EACH	3,500.00	10,500
3. WATERMAIN	12" DIA	2,950	L.F.	75.00	221,250
4. CONNECT TO EXISTING WATERMAIN	PRIMARY CONNECTION	2	EACH	5,000.00	10,000
				Sub-Total =	\$ 273,750
<u>F. Sanitary Sewer Improvements</u>					
1. CONNECT TO EXISTING SANITARY SEWER		1	EACH	5,000.00	5,000
2. 10" SANITARY SEWER PVC PIPE		1,000	L.F.	80.00	80,000
3. 12" SANITARY SEWER PVC PIPE		650	L.F.	65.00	42,250
4. SANITARY MANHOLE - TYPE A	VARIOUS DEPTHS	5	EACH	5,000.00	25,000
				Sub-Total =	\$ 132,250
<u>G. Soil Erosion Sedimentation Control</u>					
1. PERMANENT SEEDING		20.0	ACRE	3,000.00	60,000
				Sub-Total =	\$ 60,000
<u>H. Offsite Roadway</u>					
1. INTERSECTION IMPROVEMENTS - SIGNALIZED	ICE ARENA ENTRANCE	1	EACH	500,000.00	500,000
2. INTERSECTION IMPROVEMENTS - UNSIGNALIZED	DAWN BLVD	1	EACH	250,000.00	250,000
				Sub-Total =	\$ 750,000

Appendix E – Concept Estimate of Infrastructure Cost

WBK

Engineer's Opinion of Probable Construction Cost
INITIAL DEVELOPMENT SCENARIO - COMMERCIAL SOUTHWEST

<u>ITEM</u>	<u>QNTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
<u>I. Electric - Roadway Lighting Improvements</u>				
1. STREET LIGHT	21	EACH	5,000.00	105,000
2. STREET LIGHT CONDUIT / CONDUCTOR	3,100	L.F.	6.00	18,600
3. STREET LIGHT FIXTURES	21	EACH	100.00	2,100
4. ELECTRICAL TRENCH BACKFILL	3,100	L.F.	5.00	15,500
				EVERY 150 FEET
				LENGTH OF ROADWAY
			I. Electric - Roadway Lighting Improvements	Sub-Total = \$ 141,200
<u>J. Electric Distribution</u>				
1. SWITCH VAULT	6	EACH	2,200.00	13,200
2. SUBSTATION	1	EACH	3,000,000.00	3,000,000
3. 750 MM MCM CU	6,618	L.F.	14.00	92,654
4. 6" DIA DUCT PACKAGE (SINGLE CKT)	2,850	L.F.	75.00	213,750
			J. Electric Distribution	Sub-Total = \$ 3,319,604
SUBTOTAL(Improvements A-I) =				\$ 6,788,812
10% CONTINGENCY=				\$ 678,881
TOTAL =				\$ 7,467,693

The following items are NOT included in this opinion of cost:

- Any private utilities including but not limited to phone, gas, cable, electric (other than the City of Geneva).
- Any professional fees including but not limited to engineering, planning, attorney or finance fees.
- Any permit fees or fees to mitigate wetlands or transportation impact fees
- Any consideration of hazardous or special waste removal or remediation

Appendix E – Concept Estimate of Infrastructure Cost

WBK

Engineer's Opinion of Probable Construction Cost
INITIAL DEVELOPMENT SCENARIO - LIGHT INDUSTRIAL SOUTHEAST

ITEM		QNTY	UNIT	UNIT PRICE	AMOUNT
<u>A. Demolition & Debris Removal</u>					
1. DRAIN TILE REMOVAL			L.F.	9.00	0
2. TREE CLEARING AND GRUBBING	ROADWAY AND BASINS	14	AC	5,000.00	70,000
3. WELL ABANDONMENT		1	EACH	2,000.00	2,000
				Sub-Total =	\$ 72,000
<u>B. Earthwork Improvements</u>					
1. TOPSOIL	STRIP, TO STOCKPILE	67,760	S.Y	0.80	54,208
2. TOPSOIL	RESPREAD	31,460	S.Y	1.00	31,460
3. EARTH EXCAVATION	BASINS	60,403	C.Y.	12.00	724,836
4. EARTH EXCAVATION	ROADWAY, 37' Wide x 2' Thick (b/c to b/c)	9,600	C.Y.	12.00	115,200
				Sub-Total =	\$ 925,704
<u>C. Drainage Improvements</u>					
1. 12" DIA RCP STORM SEWER	OFFSITE, ROADWAY LATERALS	780	L.F.	30.00	23,400
2. 15" DIA RCP STORM SEWER	OFFSITE	800	L.F.	32.00	25,600
3. 18" DIA RCP STORM SEWER	OFFSITE	200	L.F.	35.00	7,000
4. 24" DIA RCP STORM SEWER	ALONG ROADWAY	3,500	L.F.	45.00	157,500
5. 4' DIA MANHOLE		12	EACH	2,000.00	24,000
6. 4' DIA CATCH BASIN		12	EACH	3,000.00	36,000
7. 2' DIA INLET		12	EACH	1,000.00	12,000
8. GRANULAR TRENCH BACKFILL		80	L.F.	35.00	2,800
9. 36" RCP CULVERT	UNDER ROAD, 100 YR @ 2%	80	L.F.	75.00	6,000
				Sub-Total =	\$ 294,300
<u>D. Roadway Improvements</u>					
1. ROADWAY SECTION, SEE DETAIL	BASE, SURFACE, BINDER, PRIME, CURB/GUTTER, PAVEMENT MARKINGS	3,500	L.F.	260.00	910,000
2. PCC SIDEWALK (W/AGGREGATE)	5' WIDE, BOTH SIDES OF ROADWAY	35,000	S.F.	6.00	210,000
3. FINE GRADING/BACKFILL CURBS	BOTH SIDES OF ROADWAY	7,000	L.F.	2.00	14,000
				Sub-Total =	\$ 1,134,000
<u>E. Watermain Improvements</u>					
1. FIRE HYDRANT		9	EACH	4,000.00	36,000
2. VALVE & VALVE VAULT		4	EACH	3,500.00	14,000
3. WATERMAIN	12" DIA	3,600	L.F.	75.00	270,000
				Sub-Total =	\$ 320,000
<u>F. Sanitary Sewer Improvements</u>					
1. 8" SANITARY SEWER PVC PIPE		470	L.F.	55.00	25,850
2. 10" SANITARY SEWER PVC PIPE		1,880	L.F.	60.00	112,800
3. 12" SANITARY SEWER PVC PIPE		400	L.F.	65.00	26,000
3. 15" SANITARY SEWER PVC PIPE		1,150	L.F.	70.00	80,500
4. 18" SANITARY SEWER PVC PIPE		1,800	L.F.	75.00	135,000
5. 21" SANITARY SEWER PVC PIPE		400	L.F.	95.00	38,000
4. SANITARY MANHOLE - TYPE A	VARIOUS DEPTHS	18	EACH	5,000.00	90,000
				Sub-Total =	\$ 508,150
<u>G. Soil Erosion Sedimentation Control</u>					
1. PERMANENT SEEDING		22.0	ACRE	3,000.00	66,000
				Sub-Total =	\$ 66,000

Appendix E – Concept Estimate of Infrastructure Cost

WBK

Engineer's Opinion of Probable Construction Cost
INITIAL DEVELOPMENT SCENARIO - LIGHT INDUSTRIAL SOUTHEAST

<u>ITEM</u>	<u>QNTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
<u>H. Offsite Roadway</u>				
1. INTERSECTION IMPROVEMENTS - SIGNALIZED	1	EACH	500,000.00	500,000
				LOUIS BORK DR
				H. Offsite Roadway
			Sub-Total =	<u>\$ 500,000</u>
<u>I. Electric - Roadway Lighting Improvements</u>				
1. STREET LIGHT	24	EACH	5,000.00	120,000
2. STREET LIGHT CONDUIT / CONDUCTOR	3,500	L.F.	6.00	21,000
3. STREET LIGHT FIXTURES	24	EACH	100.00	2,400
4. ELECTRICAL TRENCH BACKFILL	3,500	L.F.	5.00	17,500
				EVERY 150 FEET
				LENGTH OF ROADWAY
			Sub-Total =	<u>\$ 160,900</u>
<u>J. Electric Distribution</u>				
1. SWITCH VAULT	4	EACH	2,200.00	8,800
2. MANHOLE	2	EACH	20,000.00	40,000
3. SUBSTATION	1	EACH	3,000,000.00	3,000,000
4. 750 MM MCM CU	7,895	L.F.	14.00	110,534
5. 6" DIA DUCT PACKAGE (SINGLE CKT)	2,950	L.F.	75.00	221,250
6. 6" DIA DUCT PACKAGE (DOUBLE CKT)	450	L.F.	100.00	45,000
			Sub-Total =	<u>\$ 3,425,584</u>
			J. Electric Distribution	
			SUBTOTAL(Improvements A-I) =	<u>\$ 7,406,638</u>
			10% CONTINGENCY=	<u>\$ 740,664</u>
			TOTAL =	<u>\$ 8,147,302</u>

The following items are NOT included in this opinion of cost:

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- Any professional fees including but not limited to engineering, planning, attorney or finance fees.
- Any permit fees or fees to mitigate wetlands or transportation impact fees
- Any consideration of hazardous or special waste removal or remediation