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Kathy Michael
COUNTY CLERK

Traffic Study

Henson Recycling Campus Transfer Station

Unincorporated McLean County, Illinois



Henson Recycling Campus



Michael A Werthmann, PE, PTOE

- Principal engineer at Kenig, Lindgren, O'Hara, Aboona, Inc., Rosemont, Illinois
- Registered Professional Engineer in the State of Illinois (PE)
- Certified Professional Traffic Operations Engineer (PTOE)
- Bachelors of Science, Civil Engineering, Michigan State University
- Masters of Management, Kellogg Graduate School of Management - Northwestern University
- 33 years of experience in traffic engineering for both the public and private sectors
- Provided testimony on over 25 solid waste related projects
- Member of the Institute of Transportation Engineers



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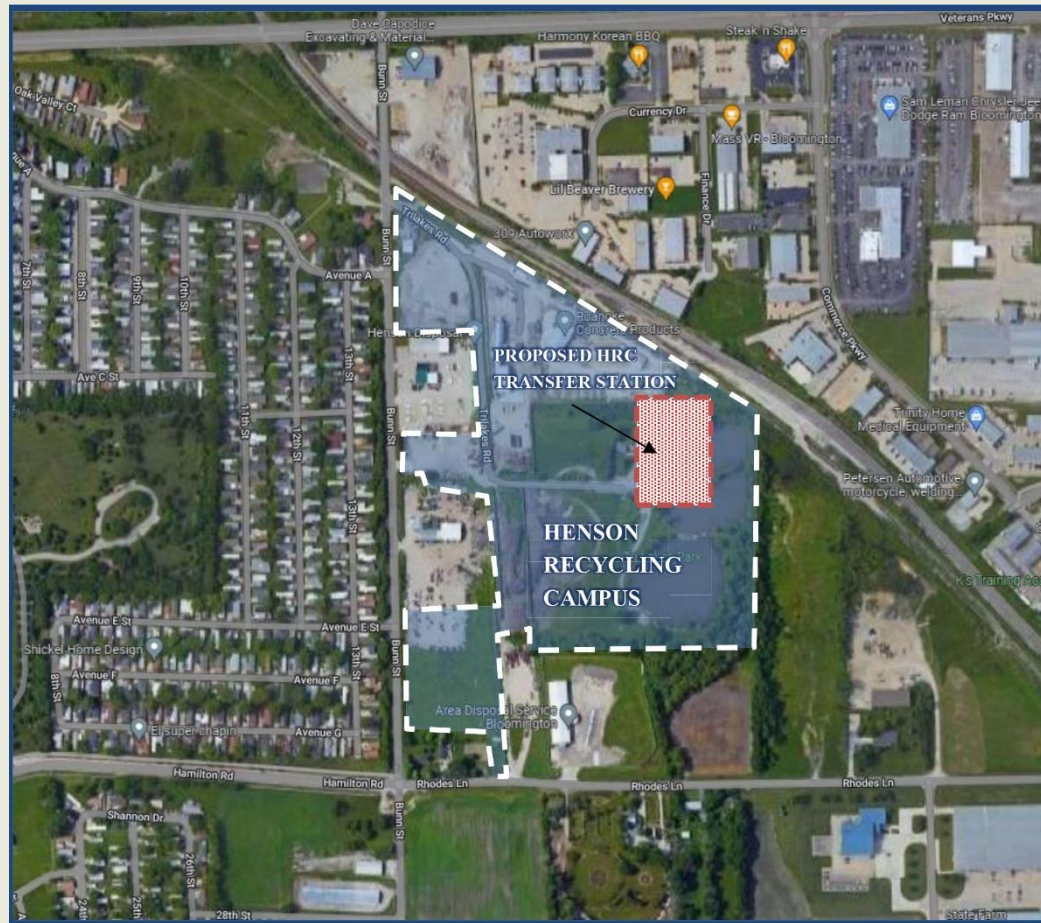
Section 39.2 - Criterion 6 - Traffic Impact

**“...the traffic patterns to or from the facility
are so designed as to minimize
the impact on existing traffic flows.”**

Traffic Study Methodology

- Based on methodology accepted within the industry and with transportation and planning officials.
- Three phase study:
 - **Existing conditions:** Examined the existing physical and operating characteristics of the roadway system.
 - **Facility traffic characteristics:** Determined the type/volume of traffic generated by the facility and the travel routes.
 - **Evaluation:** Evaluated the impact the facility-generated traffic will have on the roadway system.

Site Location – Henson Recycling Campus Transfer Station



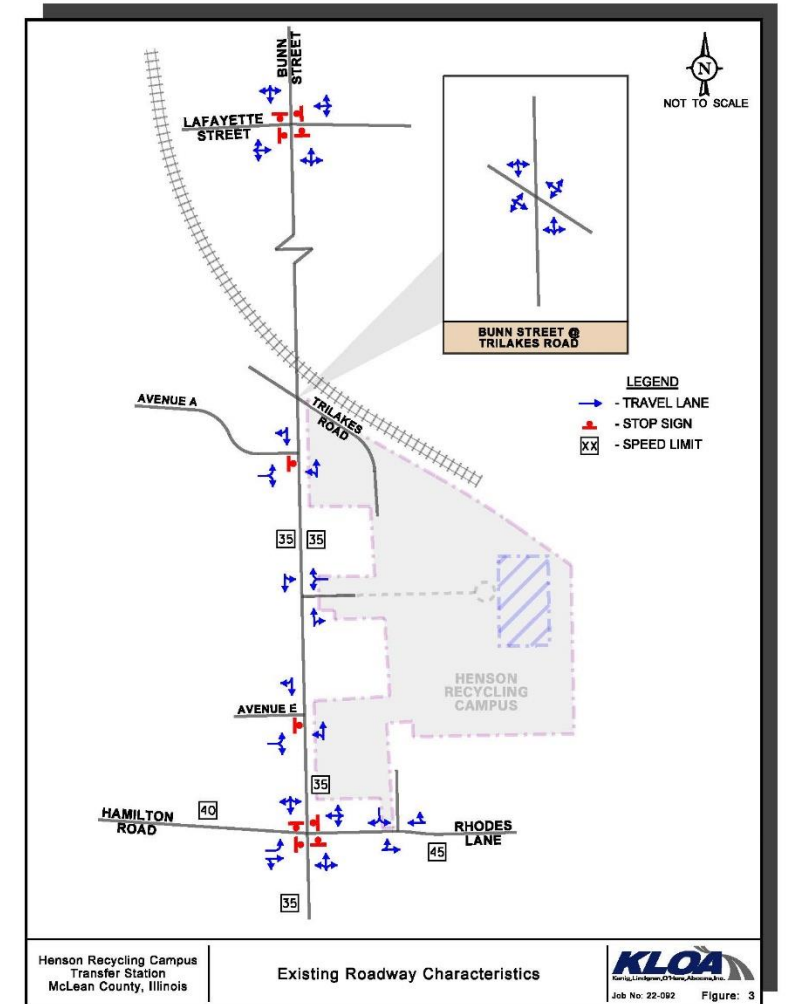
Summary of Existing Site Operations

- A general construction or demolition (C & D) recycling facility and concrete recycling operation that processes, on average, approximately 300 to 400 tons of materials per day.
- A woody waste recycling and mulching operation that generates, on average, approximately 30 inbound truckloads and three outbound truckloads per day.
- A Roanoke Concrete Products facility that produces, on average, approximately 750 tons of product per day.
- The maintenance and storage of containers and roll-off containers.

Area Roadways

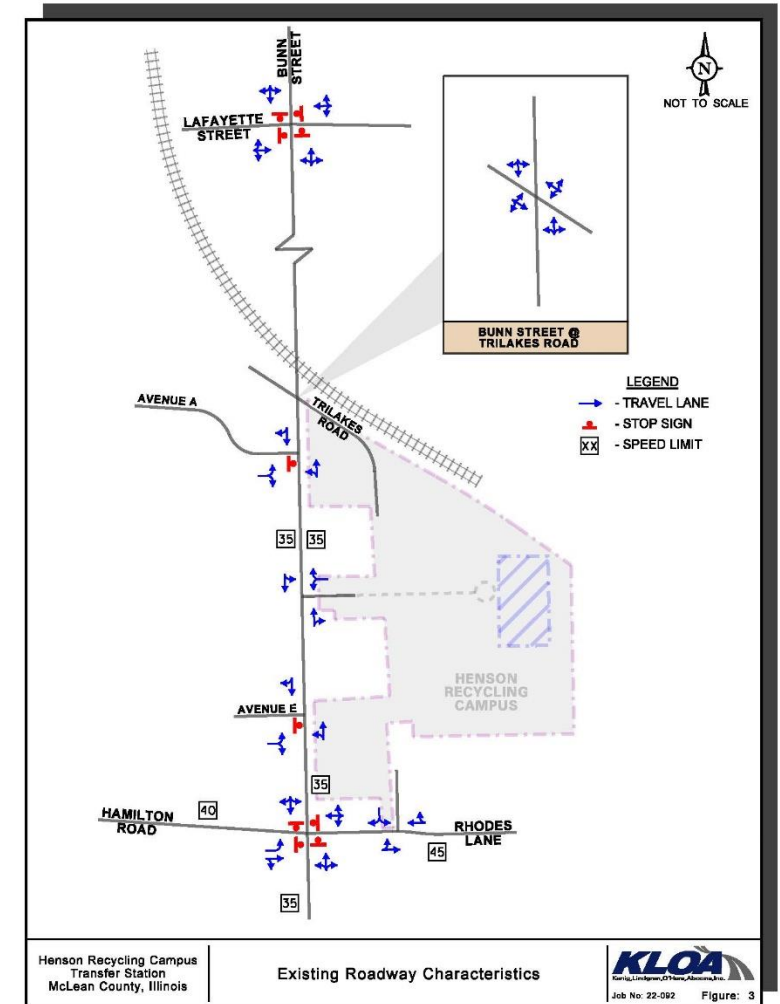
Bunn Street

- North-south, major collector road
- Two-lane cross section
- Bunn Street/Hamilton Road/Rhodes Lane and Bunn Street/Lafayette Street intersections are under all-way stop sign control
- City of Bloomington jurisdiction
- Posted speed limit of 35 mph
- Daily traffic volume between 2,650 – 2,800 vehicles



Area Roadways – Hamilton Road/Rhodes Lane

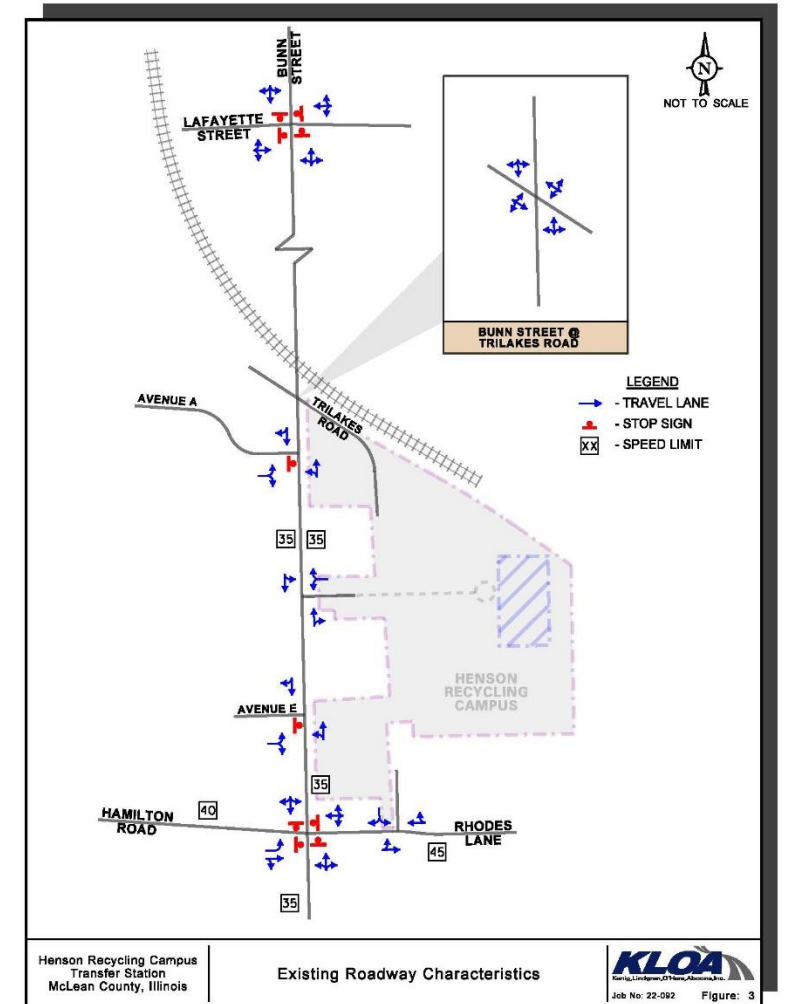
- East-west, minor collector road
- Hamilton Road has a four-lane cross section and 40 mph speed limit
- Rhodes Lane has a two-lane cross section and 45 mph speed limit
- Hamilton Road/Rhodes Lane/Bunn Street intersection is under all-way stop sign control
- City of Bloomington jurisdiction
- Daily traffic volume of between 3,700 - 4,350 vehicles



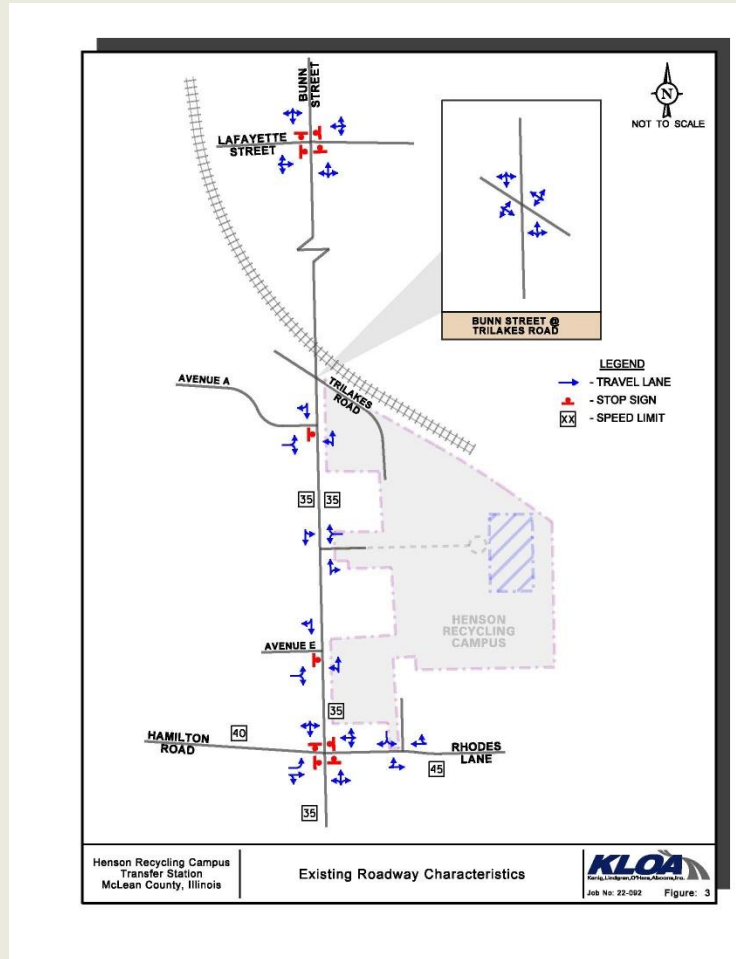
Area Roadways

Lafayette Street

- East-west, major collector roadway
- Two-lane cross section
- Lafayette Street/Bunn Street intersection is under all-way stop sign control
- City of Bloomington jurisdiction
- Posted speed limit of 35 mph
- Daily traffic volume between 1,550 – 2,250 vehicles



Existing Roadway Characteristics



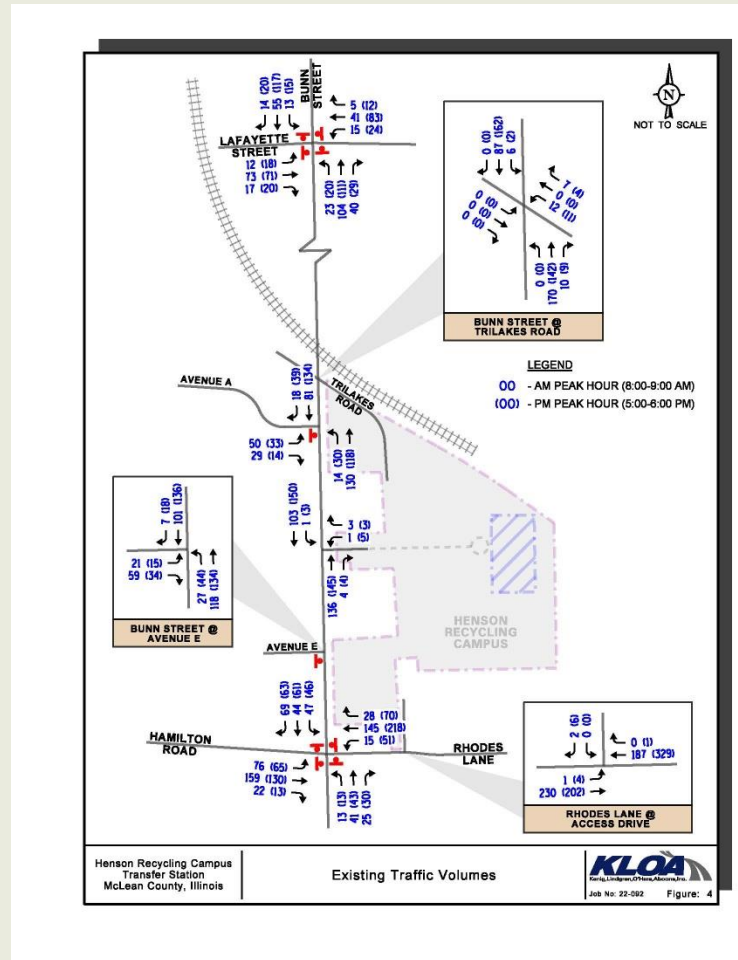
Hamilton Road East-West Connection

- The roadway improvement project will link the two existing sections of Hamilton Road and have a five-lane cross section.
- Hamilton Road/Bunn Street will be under traffic signal control.
- At Bunn Street, the Hamilton Road approaches will have a left-turn lane, a through lane, and a through/right-turn lane.
- At Hamilton Road, the Bunn Street approaches will have a left-turn lane and a shared through/right-turn lane.
- The project is currently scheduled to start in spring of 2024 and be substantially completed by the end of 2026.

Area Traffic Counts

- Weekday morning (6:00 to 9:00 AM) and evening (3:00 to 6:00 PM) peak period traffic counts were performed at the following seven intersections:
 - Bunn Street with Hamilton Road/Rhodes Lane
 - Bunn Street with Avenue E
 - Bunn Street with the HRC access drive
 - Bunn Street with Avenue A
 - Bunn Street with Trilakes Road
 - Bunn Street with Lafayette Street
 - Rhodes Lane with the HRC access drive

Existing Traffic Volumes



Summary of Transfer Station Operations

- The transfer station will be a separate facility located on the east side of the Henson Recycling Campus directly south of the Roanoke Concrete Products facility.
- The transfer station will process a maximum of 400 tons of municipal solid waste (MSW) per day.
- The transfer station will have a total of five employees.
- The transfer station is anticipated to receive and transfer waste from 6:00 A.M. to 6:00 P.M. Monday through Friday and 6:00 A.M. to 12:00 P.M. on Saturday.

Access to the Henson Recycling Campus and the Transfer Station

- ***New Public Road (HDI Court)*** - will extend through the campus from Bunn Street to the transfer station, and will serve the transfer station and the existing woody waste recycling and mulching operation.
- ***Existing Trilakes Road*** - will continue to serve the existing C&D recycling and transfer facility and the Roanoke Concrete Products facility.
- ***Existing Rhodes Lane Access Drive*** – will continue to serve the portion of the campus where containers are maintained and stored.

Hauling Characteristics

- Inbound Waste

- Transfer station will primarily serve the City of Bloomington, Town of Normal and adjacent areas.
- Inbound waste will be distributed along the existing roadway system.

- Outbound Waste

- The outbound waste will be transported from the transfer station to the an out-of-county landfill.
- The route that the transfer trailers will use to travel to and from the landfill will be southbound Bunn Street to westbound Hamilton Road to southbound U.S. Route 51.

Trip Generation Estimates

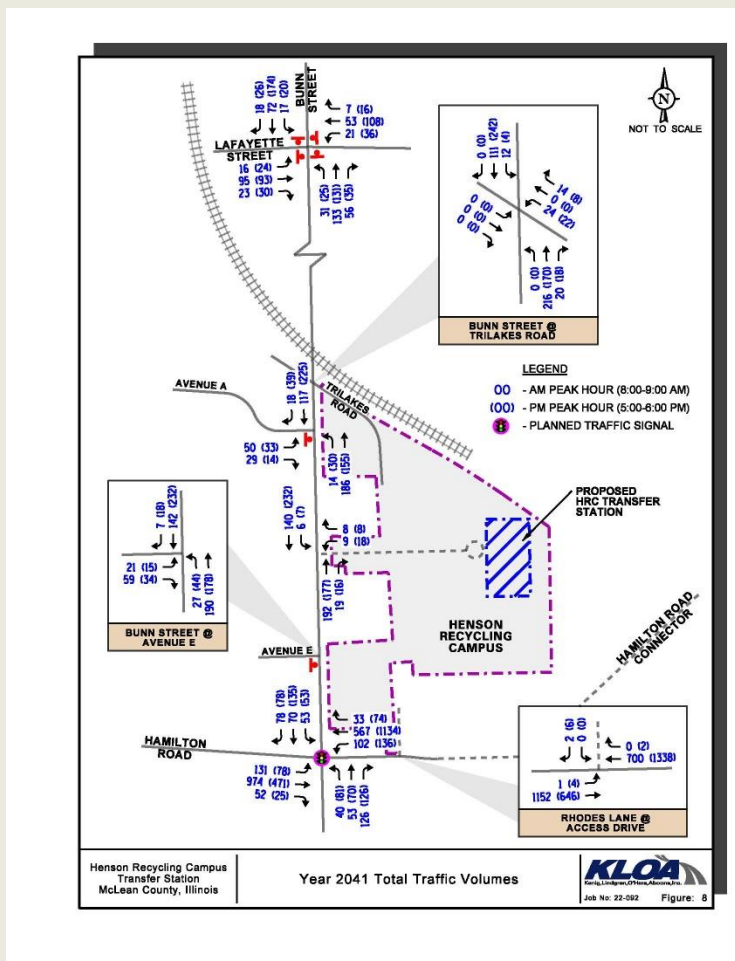
- The facility will process a maximum of 400 tons of MSW per day.
- The facility will have a total of five employees.
- The volume of traffic in any one time period will be limited as the facility traffic will be distributed throughout the day.

	Morning Peak Hour		Evening Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Direct Haul (Single-Unit Truck)	7	7	4	4
Transfer Trailers (Semi-Trailers)	2	2	1	1
Employees (Passenger Vehicles)	5	0	0	5
Total	14	9	5	10

Year 2041 Total Traffic Volumes

- Projected Year 2041 traffic volumes were estimated based on the following traffic volumes:
 - The Year 2041 projected traffic volumes developed as part of the Hamilton Road East-West Connection Project.
 - A 100 percent increase in the existing traffic currently traveling to and from the Henson Recycling Campus.
 - Traffic to be generated by the proposed transfer station assuming it processes 400 tons of waste per day.

Year 2041 Total Traffic Volumes



Transfer Station Access System

- Access to the transfer station is to be provided via a new public road (i.e., HDI Court) that will extend from Bunn Street to the HRC Transfer Station.
- HDI Court will intersect Bunn Street at the location of the existing Henson Recycling Campus southern access drive and will replace it.
- HDI Court will provide one inbound lane and one outbound lane and will provide larger radii to accommodate the turning truck traffic.
- HDI Court will also serve the existing woody waste recycling and mulching operation.
- The design and location of the proposed HDI Court will provide efficient and orderly access to and from the facility.

Evaluation - Traffic Analyses

- The traffic analyses were performed using the Highway Capacity Software (HCS).
- The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter grade from A to F based on the average control delay experienced by vehicles passing through the intersection.
 - Service Level A = Best traffic flow, least delay
 - Service Level B
 - Service Level C
 - Service Level D
 - Service Level E
 - Service Level F = Oversaturated conditions, extensive delays

Capacity Analysis Results

- **Existing Conditions** – all the critical movements at the area intersections currently operate at a good Level of Service.
- **Projected Conditions** – the future signalized intersection of Bunn Street/Hamilton Road and the critical movements at the stop sign controlled intersections are projected to operate at a good Level of Service.
- The existing and future roadway system has sufficient reserve capacity to accommodate the additional traffic to be generated by the transfer station.

Opinion

It is my professional opinion that the traffic patterns to and from the Facility are so designed as to minimize the impact on existing traffic flows, satisfying Criterion 6, Section 39.2(a) of the Illinois Environmental Protection Act.

Basis of Opinion

- The transfer station will be a separate facility located within the Henson Recycling Campus, which currently contains several truck facilities and/or uses.
- The volume of traffic in any one time period is limited as the transfer station traffic will be distributed throughout the day.
- The design and location of the proposed HDI Court will provide efficient and orderly access to and from the transfer station.
- The roadway system has sufficient reserve capacity to accommodate the traffic to be generated by the transfer station.