Traffic Study
West DuPage Recycling and Transfer Station (RTS)
West Chicago, Illinois

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- Principal engineer at Kenig, Lindgren, O'Hara, Aboona, Inc., Rosemont, Illinois
- Registered Professional Engineer in the State of Illinois
- Certified Professional Traffic Operations Engineer (PTOE)
- Bachelor's of Science, Civil Engineering, Michigan State University
- Master's 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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EXHIBIT tabbies A-10

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

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Summary of Existing Site Operations

- A construction and demolition (C & D) recycling and transfer facility that is permitted to process 1,250 tons of materials per day.
- The processing of wood into mulch and other products (erosion control).
- The maintenance and storage of up to 95 vehicles made up of streetsweepers, portable restroom trucks, packer and roll-off single-unit trucks, and transfer trailers.
- The maintenance and storage of portable restrooms, containers, roll-off containers, and carts.

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Existing Conditions – Tasks Completed

- Investigated/examined area traffic and roadway conditions
- Collected information and reviewed data
- Conducted traffic counts at critical intersections/roadways in the site vicinity

Area Roadways – IL 64 (North Ave.)

- East-west, major arterial road
- Six lane cross section
- Signalized intersection with Powis Road
- Classified as a Class II truck route, and as a Strategic Arterial Route (SRA) by IDOT.
- Daily traffic volume of over 31,400 to 33,400 vehicles (IDOT 2021)

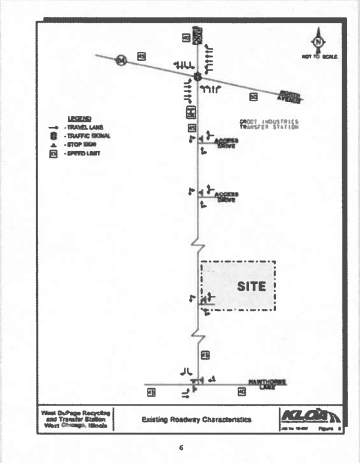
Area Roadways – Powis Road

- North-south, collector road
- Two-lane cross section
- At-grade railroad crossing just north of Hawthorne Lane
- Under all-way stop sign control at Hawthorne Lane
- Classified as a Class II truck route
- Daily traffic volume of 5,550 vehicles (IDOT 2021)

Area Roadways – Hawthorne Lane

- East-west local roadway
- Two-lane cross section
- At grade railroad crossing just west of Carolina Drive
- Under all-way stop sign control at Powis Road
- Classified as a Class II truck route between Kress Road and Atlantic Drive
- Daily traffic volume of 3,450 vehicles (IDOT 2021)

Existing Roadway Characteristics



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Traffic Counts

- Conducted weekday morning (6:00 A.M. to 9:00 A.M.) and evening (3:00 P.M. to 6:00 P.M.) peak period traffic counts at the following intersections:
  - Powis Road with IL 64
  - Powis Road with Hawthorne Lane
  - Powis Road with the LRS site access drive
  - Powis Road with the Groot/Waste Connections transfer station access drives
- Conducted daily traffic counts along Powis Road south of IL 64

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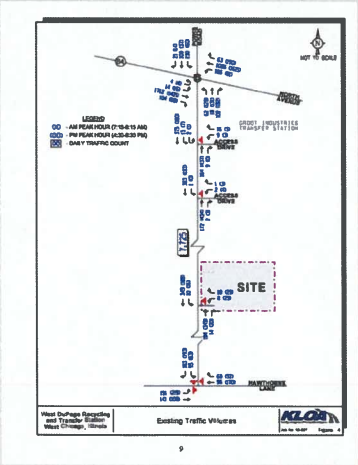
Traffic Counts (cont.)

- Traffic counts were performed in 2019 (pre-pandemic) and 2022 (post-pandemic).
- West DuPage RTS processed approximately 750 tons of material on the day of the 2019 traffic counts
- The 2019 traffic counts at Powis Road/ North Ave. and Powis Road/ Hawthorne Lane intersections were 20% to 43% higher than the 2022 traffic counts.
- To provide a worst-case analysis, the 2019 traffic counts were used.

Existing Traffic Volumes



West DuPage RTS Characteristics – Tasks Completed

- Characteristics of West DuPage facility and operations
- Directional distribution analysis (travel routes)
- West DuPage RTS trip generation estimates
- Future traffic assignments

Summary of Proposed Facility Operations

- Accept up to 1,950 tons per day of materials of which:
  - Up to 650 tons per day may be MSW,
  - Up to 300 tons per day may be hydro excavation wastes,
  - Up to 750 tons per day may be C & D (reduced from currently allowable 1,250 tons per day), and
  - Up to 250 tons per day may be SSR.
- Convert the existing southern access drive to inbound only, and Powis Road will be widened to provide a southbound left-turn lane and a northbound right-turn lane serving the access drive.
- Convert the unused northern access drive to outbound only and stripe the access drive to provide separate left-turn and right-turn lanes. In addition, the radius will be increased to accommodate truck traffic.

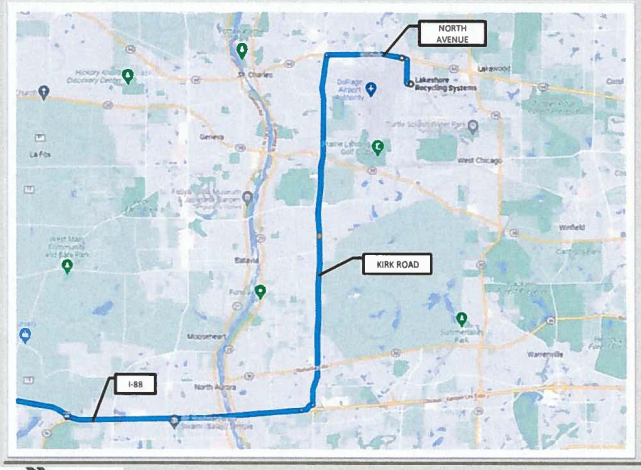
Hauling Characteristics

- Inbound Waste
  - A large percentage of the traffic generated by the West DuPage RTS will consist of LRS trucks/containers that are already traversing the area roadway system.
  - LRS collection trucks/containers currently travel to an off-site transfer station before they return to the LRS site for storage and/or parking at the end of the day.
  - Since LRS collection trucks/containers will deliver waste/ recyclables to the proposed West DuPage RTS and remain for storage and/or parking at the end of the day, the West DuPage RTS will result in a reduction of (1) the traffic generated by the transfer station and (2) the miles traveled by the LRS collection trucks/containers

Hauling Characteristics (cont.)

- Outbound Waste
  - The waste will be transported from the West DuPage RTS to a landfill via transfer trailers that will be similar in size as the trucks currently serving the facility.
  - Transfer trailers will travel northbound Powis Road to westbound North Avenue to southbound Kirk Road/ to Interstate-88. Incoming transfer trailers will follow the same route in reverse.

Hauling Characteristics (cont.)



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LRS LAKESHORE Recycling Systems

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Estimated Traffic Generation

	Morning Peak Hour		Evening Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Existing LRS Site Traffic[1]				
Direct Haul (Single-Unit Truck)	8	10	25	0
Transfer Trailers (Semi-Trailers)	1	1	0	0
Passenger Vehicles	15	7	11	54
Total	**24**	**18**	**36**	**54**
Projected Increase in Traffic[2]				
Direct Haul (Single-Unit Truck)	4	4	27	27
Transfer Trailers (Semi-Trailers)	2	2	7	7
Passenger Vehicles	10	0	0	10
Total	**16**	**6**	**34**	**44**
Total Projected Traffic				
Direct Haul (Single-Unit Truck)	12	14	52	27
Transfer Trailers (Semi-Trailers)	3	3	7	7
Passenger Vehicles	25	7	11	64
Total	**40**	**24**	**70**	**98**

1. Existing C & D recycling and transfer facility processed 750 tons the day the traffic counts were completed.
2. Based on the proposed transfer station processing 650 tons of MSW per day, 250 tons of SSR per day, and 300 tons of hydro excavation waste per day.

Table represents a worst-case analyses:

- Facility is projected to generate few new collection truck trips during the evening peak hour.
- However, table assumes the facility will generate all new (in and out) collection truck trips during the evening peak hour.

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Future Growth

- In addition to traffic generated by the proposed recycling and transfer operations at West DuPage RTS, the study also considered the following:
  - Increase in traffic from projected ambient growth in the area
  - Planned improvements to Powis Road
  - Planned use of the north access drive at the West DuPage RTS

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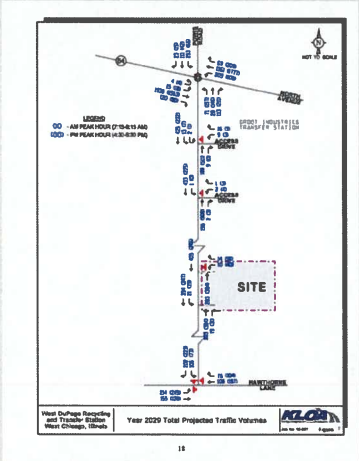
2029 Traffic Volumes



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Proposed Access System

- Inbound Access to the RTS
  - Existing RTS southern access drive will be converted to inbound access only.
  - Powis Road will be widened to provide separate left-turn and right-turn lanes serving the access drive.
- Outbound Access from the RTS
  - Existing RTS northern access drive will be reopened and converted to outbound access only.
  - The access drive will be striped for a left-turn lane and a right-turn lane.
  - A larger radius will be provided to accommodate the turning truck traffic.
- The location and design of the access drives and the Powis Road improvements have received initial engineering comments by the DuPage County Division of Transportation (DuDOT) .

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Proposed Access System

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Evaluation - Traffic Analyses

- The traffic analyses were performed using the Highway Capacity Software.
- 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 (a grade of D or above is considered acceptable in urban areas) 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

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Capacity Analysis and Gap Study Results

- Existing Condition - the signalized intersection of North/Powis and the critical movements at the stop sign controlled intersections currently operate at a good Level of Service (LOS) B or C.
- Projected Conditions - the signalized intersection of North/Powis and the critical movements at the stop sign controlled intersections are projected to continue to operate at a good LOS B or C.
- The existing roadway system has sufficient reserve capacity to accommodate the additional traffic to be generated by the RTS.
- The results of gap study show that the sufficient gaps are available in the Powis Road traffic stream to accommodate the traffic turning to and from the RTS.
- Other than the improvements at the access drives, no additional roadway improvements or traffic control modifications are required to accommodate the RTS traffic.

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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.

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Basis of Opinion

- The West DuPage RTS is an existing recycling and waste transfer facility that is located adjacent to industrial uses.
- Improvements will be made to Powis Road and the West DuPage RTS access drives to accommodate additional vehicle traffic.
- The design and location of the access drives and the Powis Road improvements have been conceptually approved by DuDOT.

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Basis of Opinion (cont)

- The volume of traffic generated in any one time period is limited as the RTS traffic will be distributed throughout the day.
- The roadway system has sufficient reserved capacity to accommodate the traffic to be generated by the RTS.
- Other than the improvements at the access drives, no additional roadway improvements or traffic control modifications are required to accommodate the RTS traffic.