



EXHIBIT

PWC-13

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**Memorandum**

**To: Mr. Dennis G. Walsh - Klein, Thorpe, and Jenkins, Ltd.**

**From: Martin Fallon and Devin Moose - Aptim Environmental & Infrastructure, LLC**

**Date: January 20, 2020**

**Re: West DuPage Recycling and Transfer Station Siting Application – Criterion 2**

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On behalf of the City of West Chicago, APTIM Environmental and Infrastructure LLC (Aptim) has begun review of Criterion 2 of the DuPage County Siting Application (Application) for Lakeshore Recycling System, LLC's (LRS) West DuPage Recycling and Transfer Station, prepared by Civil and Environmental Consultants, Inc. (CEC). Upon initial review of Criterion 2, notable concerns regarding the location, design, and operation of the proposed site were identified and are summarized below:

**Issue: Residential Zoning Setback**

Section 22.14(a) of the Illinois Environmental Protection Act states that "No person may establish any pollution control facility for use as a garbage transfer station, which is located less than 1,000 feet from the nearest property zoned for primarily residential uses or within 1,000 feet of any dwelling, except in counties of at least 3,000,000 inhabitants."

However, the railroad property directly adjacent to the east side of the site is zoned Estate Residence District which is designated for single family detached dwellings, home occupations, small community residences, forest preserves, and parks and recreational areas when publicly owned. Although the application includes extensive discussion that the physical features of that property, the lack of access, and the lot requirements make it physically impossible to construct a residence there, it is the opinion of Aptim that this issue poses significant risk to the project.

It is our understanding that the Applicant believes that the Pollution Control Board decision in the Caseyville transfer station case, along with the letter from West Chicago provided in Appendix 2-D exempts this project from the residential setback requirement. However, there are differences between this situation and that in Caseyville. In any event, even if siting approval is obtained in West Chicago, this is an issue that will ultimately have to be litigated in the event that the siting process has opposition that may file an appeal. Aptim recommends that the railroad property be rezoned prior to filing to eliminate this risk.

**Issue: Stormwater**

Although the 100-yr Base Flood Elevation (BFE) (752.25 ft. MSL) obtained from the new FEMA Flood Insurance Study data is not high enough to overflow into the East Pond (basin crest is 752.7 ft. MSL), it is high enough to inundate the East Pond outfall (749.1 ft. MSL) as well as the site's existing storm sewer network outlet (750.5 ft. MSL). In fact, both the East Pond outfall and existing storm sewer network outlet are lower than the 10-year storm flood elevation (751.50 ft. MSL).

Given the East Pond and attributing storm sewer outlet will be submerged during significant storm events, a tailwater analysis at both locations is necessary to determine if free-flowing conditions will exist. Additionally, the East Pond restrictor orifice (750.54 ft. MSL) should govern the East Pond NWL compared to the discharge culvert inlet elevation (749.50 ft. MSL). This increase in NWL would potentially raise the peak elevation in the East Pond and could result in additional discharge through the emergency weir spillway at a greater rate than allowable.

It is recommended that an analysis of the network be performed to evaluate and determine how the site's proposed stormwater management system performs during peak rainfall events. This is especially the case given that stormwater from the East Pond is expected to backflow into the existing storm sewer network for even the 10-year rainfall event. With no understanding of how stormwater runoff will move through the site conveyance and discharge features, it is impossible to anticipate if stormwater will be detained and released in a controlled manner.

Therefore, it is the opinion of APTIM that the Stormwater Report has not demonstrated adequate stormwater runoff design features in accordance with the DuPage County Countywide Stormwater and Flood Plain Ordinance.

**Issue: Proximity to Airport (and litter)**

FAA Advisory Circular 150/5200-33b (Hazardous Wildlife Attractants on or Near Airports) requires developers to establish convincingly on a case-by-case basis that proposed transfer stations will not pose a threat to aviation safety by attracting wildlife. According to the FAA, "trash transfer facilities that are open on one or more sides; that store uncovered quantities of municipal solid waste outside, even if only for a short time; that use semi-trailers that leak or have trash clinging to the outside; or that do not control odors by ventilation and filtration systems (odor masking is not acceptable) do not meet the FAA's definition of fully enclosed trash transfer stations." The FAA considers these facilities incompatible with safe airport operations if they are located within 10,000 feet of airports serving turbine-powered aircrafts.

The proposed transfer station is within 10,000 feet of the DuPage Airport, which serves turbine-powered aircrafts, and is not proposed to be fully enclosed.

The application indicates that, "West DuPage RTS agrees to keep the truck doors to the transfer facility closed, except for emergencies and to allow trucks to enter and exit the facility, during regular business hours." However, there is no indication that these doors will operate automatically such that they will open/close before/after each truck enters/leaves the building. Further, the proposed throughput and operations are such that the bay doors for access to the tipping floor will not be able to be closed during operating hours and will need to remain open. In addition, the proposed transfer building is proposed to have a doorway on the west side connecting to the C&D building that currently operates with its doors open.

These conditions may provide a hazardous wildlife attractant. In fact, the bird study prepared by Loomacres that is provided in Appendix 2-G1 indicates that rock pigeons are loafing within the existing C&D sorting building and that European starlings nests are located on its exterior.

In addition to providing a food source, it is unknown how the air filtration and ventilation system will be capable of maintaining negative pressure throughout the entire building when openings are present. The applicant has not provided any filtration or ventilation evaluation, such as a computational fluid dynamics analysis of airflow, to prove that the proposed transfer building filtration system is adequately designed. Therefore, it is recommended that further information be provided as to how the proposed

transfer building will stay fully enclosed during hours of operation, as well as maintain negative pressure for the proposed air filtration and ventilation system. Further, it is suggested that the FAA and DuPage Airport be provided an opportunity to review the design and operations of the facility. However, it is noted that any potential mitigating measures that could be requested by the FAA, such as the implementation of actuated doors that would open and close each time a vehicle enters or leaves the building, would create significant issues relating to operations and storage capacity being proposed by the applicant.

**Issue: Throughput and Tipping Floor Capacity**

The proposed maximum throughput of 1,300 tons per day is too high for the facility design and operation.

The applicant claims there is approximately 1,333 cubic yards (L90'xW50'xH10'x0.8 slope loss factor) of storage capacity on the tipping floor. However, this volume assumes the stockpiling of material across the doorway area that will connect the C&D building to the proposed transfer building. As opposed to push walls, this overhead door and adjacent wall area is not designed to withstand the forces of a 10-foot high waste stockpile or the horizontal force of a wheel loader driving against it. Further, this is the same overhead door and area that is proposed to be used in order to move any non-recyclable C&D material from the C&D transfer building to the transfer building. And conversely, to move any loads of C&D material that are inadvertently deposited in the transfer building into the C&D building. As shown in Figure 1, keeping the overhead door and pathway between transfer buildings clear reduces the MSW stockpile capacity to approximately 814 cubic yards (about 30% less than stated by the Applicant).

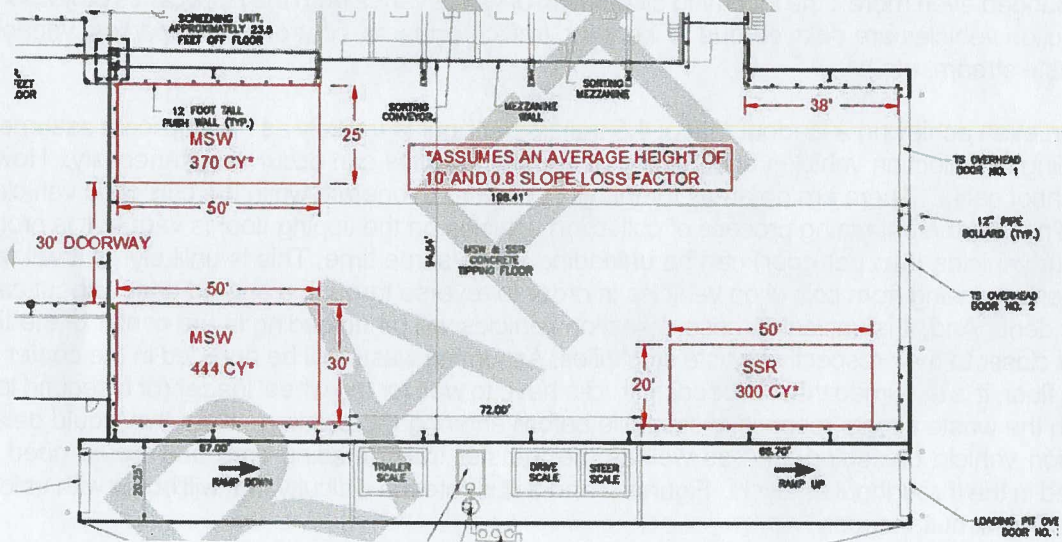


Figure 1

Similarly, the SSR storage capacity is estimated to be 600 cubic yards or 120 tons, but this quantity assumes two equally sized (L50' x W20' x H10' x 0.8 slope loss factor) stockpiles on the east side of the MSW transfer building. As shown in the figure above, there is clearly not enough room in the northeast corner of the MSW transfer building for a stockpile of this size without blocking the end waste area or overhead door no. 1. In fact, there is virtually no space at all to stockpile anything in that corner without blocking overhead door no. 1. This leaves a single 300 cubic yard or 60 ton stockpile in the southeast corner of the MSW transfer building for SSR storage.

The Applicant states that the typical time to load a transfer trailer with this front-end loader is approximately eight minutes, resulting in the ability to load-out 7.5 transfer trailers per hour. However, Aptim conducted a vehicle processing time analysis at the Glenview Transfer Facility and found that the average time to process a transfer trailer is 13 minutes and 26 seconds, using a grapple and not including tarping. The loading time using a front-end loader would be expected to be greater due to the need to cycle between the waste pile and loading area. With a loading time of 13 minutes and 26 seconds, only 4.5 trailers will be able to be processed per hour. Assuming this reduced loading rate, the necessary stockpile volume increases to 960 cubic yards, though only 814 cubic yards max will be available as described above.

Further, the applicant has assumed that one ton of waste is equal to four cubic yards on the tipping floor. Aptim has always used a more conservative density of one ton of waste is equal to five cubic yards. While the actual density is likely less than five cubic yards per ton than five, evidence exists that actual densities are greater than four which would further increase the amount of storage needed. Using a density of five cubic yards per ton, up to 1,200 cubic yards of storage will be required on the tipping floor. This is almost 50% more than the available stockpile capacity which could be compounded even more if the incoming distribution of waste varies from the Applicant's projection (e.g. if collection vehicles are delayed due to weather, traffic/accidents, control of third parties, variability of the waste stream, etc.).

Further, even achieving a loadout rate of 4.5 trailers per hour is unlikely as the applicant assumes that unloading of collection vehicles and loading of transfer vehicles can occur simultaneously. However, this cannot occur. There are no areas for the wheel loader to operate while the collection vehicles are unloading and the unloading process of collection vehicles on the tipping floor is vague. It is proposed that four vehicles (two per door) can be unloading at the same time. This is unlikely as it will require near perfect driving from collection vehicles in order to reverse through a shared door without causing an accident. And, it is unclear if these collection vehicles will be unloading in the center of the tipping floor or closer to their respective waste stockpiles. Assuming waste will be dumped in the center of the tipping floor, it is assumed that succeeding trucks have to wait for the wheel loader (or a second loader) to push the waste into its respective stockpile before entering the building. If so, this would delay the collection vehicle unloading time as well as the transfer trailer loading time and would need to be included in the throughput analysis. Figures 2 and 3 illustrate the difficulty that will occur with unloading and loading simultaneously.

Figure 2 shows the collection vehicles pulling far enough into the transfer building to unload waste near the stockpile areas, but in doing so, limit the area that the wheel loader can operate. This scenario makes it impossible for the wheel loader to work while waste is being unloaded, therefore resulting in the wheel loader having to operate between each wave of collection vehicles in order to consolidate the waste into its respective stockpile or load the waste into a transfer trailer. This would cause significant delays in the timing of incoming collection vehicles (as well as transfer trailer load-out) and, consequently, effect the proposed facility throughput.

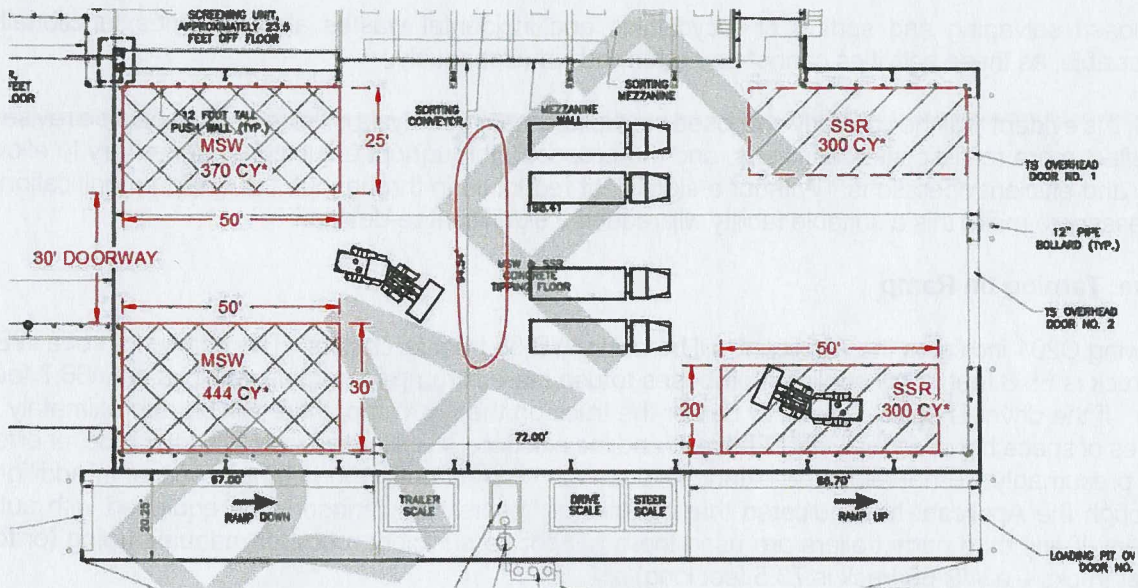


Figure 2

Figure 3 illustrates a scenario where the collection vehicles unload waste closer toward the doors, leaving enough room for the wheel loader to operate behind, but subsequently causing waste to build up and block the recyclable stockpile as well as the transfer building doors. This scenario would likely result in waste being tipped near the overhead doors leaving virtually no room for incoming collection vehicles to pull into the transfer building. Not to mention the inability to close the bay doors and the inherent increased likelihood for litter tracking and unwanted wildlife.

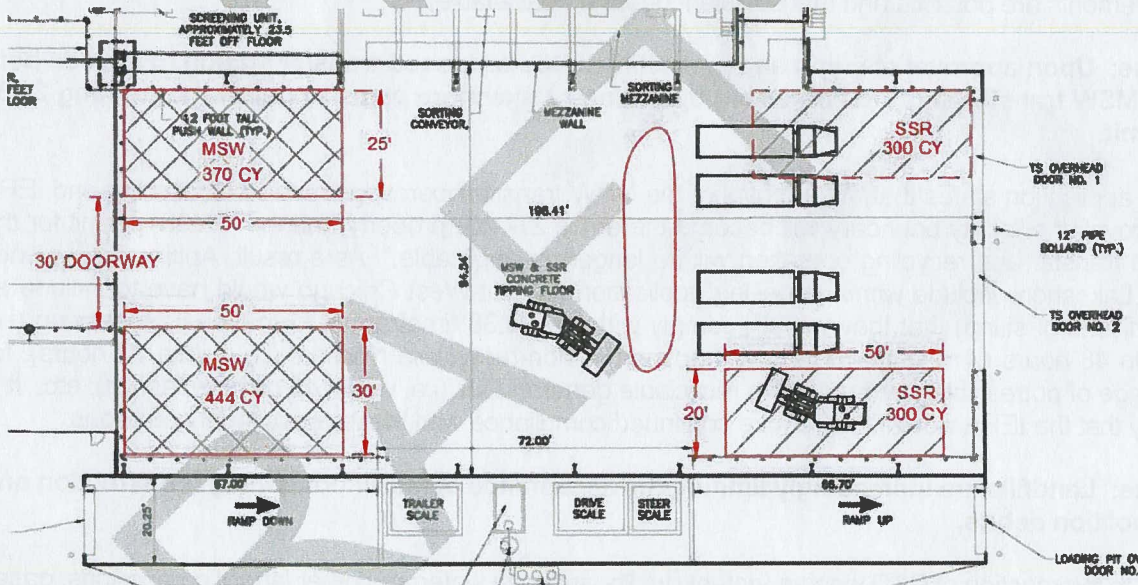


Figure 3

Finally, the applicant has proposed that salvaging of recyclable material from MSW loads may occur. Salvaging will require the loader operator to leave the transfer building with the salvaged materials and deliver them to the C&D tip floor, or directly to the storage bunkers as described in Section 2.4.5. The

proposed salvaging and sorting of recyclables and incidental wastes also becomes functionally impossible, as these activities cannot be performed simultaneously.

In all, it is evident that the currently proposed stockpile capacity analysis is flawed and should be revised to reflect more realistic site conditions, and the proposed throughput adjusted as necessary to allow safe and efficient operations. Without a significant reduction in throughput, the design modifications necessary to make this a suitable facility will require a significant re-design.

**Issue: Tarping on Ramp**

Drawing C201 indicates the Applicant will be using WB-55 transfer trailers. The total length of a WB-55 truck is 65.8 feet. The applicant proposes to use the exit ramp for tarping which is only 66.7 feet long. If the driver is able to perfectly center the truck on the exit ramp, there will be approximately 5 inches of space between the front of the cab and the exit door. This leaves very little tolerance for error and presumably will not allow the exit door to remain closed during the tarping process. In addition, although the Applicant has indicated that all transfer trailers are planned to be equipped with auto tarpers, if any third party trailers are used there will not be sufficient room for manual tarping (or for larger trucks – a WB-65 truck is 73.5 feet long).

**Issue: Missing Drawing C400 (Site Traffic Flow and Queuing)**

It is unclear how queuing for vehicles waiting to unload in the transfer building will be accomplished. Presumably, four trucks will need to be queued east of the bay doors awaiting vacation of the previous four vehicles. However, the design drawings show a storage bunker located east of the building (and a fence in some cases) and this area will need to remain clear for exiting transfer vehicles to exit. The Applicant references Drawing C400 while describing on-site traffic flow and queuing capacity. However, this drawing was not included with the Application to verify that proposed site flow movements are possible and that sufficient queuing is available.

**Issue: Upon approval of siting and permitting of the proposed transfer station to include both the MSW transfer and C&D recycling operations, Lakeshore plans to nullify the existing 22.38 permit.**

The application states that, "if approval of the MSW transfer operations receive local siting and IEPA approval, the facility boundary will become the entire 27-acre property and the "22.38" permit for the C&D transfer and recycling operation will no longer be applicable." As a result, Aptim recommends that Lakeshore include within the siting application (or that West Chicago would have to include as conditions of siting) that they will still comply with the 22.38 timeframes for material processing (i.e. within 48 hours of receipt), for off-site transport of non-recyclable material (i.e. within 72 hours), for storage of putrescible or combustible recyclable general C&D (i.e. within 45 days of receipt), etc. It is likely that the IEPA would also require continued compliance with these operational conditions.

**Issue: Landfills are increasingly limiting the acceptance of sulfur containing construction and demolition debris.**

Due to the reaction of C&D wastes (notably wallboard) with water and other landfill compounds, gases are generated that include high levels of sulfur compounds and resulting odors. For this reason, many landfills are limiting their acceptance of C&D residuals which generally contain high amounts of sulfur containing material.

For example, the Orchard Hills Landfill, historically a disposal outlet for Lakeshore wastes, has a permit condition that prevents the acceptance of C&D fines for subbase or base materials for interim access roads that contains greater than 5% sulfur by weight as determined by USEPA methods SW9056 and SW5050. It is our understanding that mixing the C&D residuals with MSW does not avoid this issue. Further, and it appears that Lakeshore is planning to mix the residuals from its C&D recycling operation into the proposed MSW stream within the proposed transfer station which may render all of the material unacceptable at certain landfills. Additionally, if Lakeshore intends to deliver the C&D residuals to a disposal facility as beneficial use to avoid the state surcharge, they will need to be tracked and handled separately. If this is the case, a separate area on the tipping floor should be identified for storage of these materials. It is recognized that Lakeshore has recently acquired its own Landfill located in Atkinson, Illinois and may have a greater tolerance for acceptance of C&D fines at that location.

**Issue: Use of Lakeshore's landfill in Atkinson, Illinois may limit the number of landfill trips per day and may require storage of a significant amount of trailers on-site in West Chicago. The storage location of the total estimated number of transfer trailers should be designated on the site plan.**

As indicated above, Aptim is aware that Lakeshore has recently acquired its own Landfill located in Atkinson, Illinois. However, the extensive travel time to Atkinson from West Chicago will likely limit the number of trips to one per day for each trailer (4 hours and 40 minutes round trip, plus 30 minutes on-site, plus loading and time to/from daily parking). As a result, discussion may be warranted to indicate that these residuals will not be mixed with incoming MSW and how segregation and storage will occur on the tipping floor. Alternatively, discussion may be warranted to demonstrate that Lakeshore can make two trips per day and/or that it will have a sufficient number of trailers or rotating drivers in circulation to allow for the loadout schedule provided in Tables 2-2 through 2-6 while transporting all of the daily throughput to Atkinson. Further, if Lakeshore plans to operate its own transfer trailers and will be storing the trailers at the West Chicago site, area should be designated on the site plan for where these trailers will be stored. There are 20 trailer storage locations shown on Drawing C201, though more may be necessary. The throughput table indicates that six trailers will be needed in the 11:00 hour, though it would appear that these trailers may not be available at that time of day in the event that the Atkinson landfill is the disposal destination.

In all, initial review of the proposed location, design, and operation reveals gaps in information and raises questions concerning the ability of the proposed facility to protect the environment as well as the health, safety, and welfare of the public.