

CLOSURE SUMMARY

Solid Waste Transfer Station located on Old South Chapel Street



SOLID WASTE TRANSFER STATION CLOSURE SUMMARY

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Section 1 – Introduction

The City of Newark’s (City) Department of Public Works and Water Resources is responsible for the collection and disposal of all solid waste (waste) generated by residents, businesses, and commercial industries located within the City limits. The City collects the waste on a predetermined schedule and until recently delivered this waste to the City’s transfer station. At this station, the trucks dump their waste into a large hopper where the waste is further compacted before being loaded onto a larger tractor-trailer for permanent disposal at a solid waste landfill.

Located on a three acre site on Old South Chapel Street, the City’s transfer station began operation in the mid – 1970’s and has operated effectively since its opening with the exception of routine maintenance. Due to the age of the equipment in the facility and the close proximity of the Pine Tree Corners Transfer Station in Middletown, the City decided to permanently close the transfer station. Figure 1.1 shows the location of the transfer station.

The transfer station operates under a Solid Waste Management Permit (SW-99/04) issued by the Delaware Department of Natural Resources and Environmental Control (DNREC) division of Waste and Hazardous Substances. To initiate closure of the Transfer Station, the City submitted the Transfer Station Closure Plan for review and comment by DNREC in April of 2014. This report summarize the closure activities that occurred at the City’s Transfer Station. Listed below is a bullet list of events that succeeded the submission of the transfer station closure plan.



Figure 1.1: Location Map

- April, 2014 – Submitted Closure Plan to DNREC for Review.
- May 2014 – Review of closure plan complete. DNREC requested soil sampling on site.
- June 2014 – Soil sampling plan submitted to DNREC for review and approval.
- August 2014 – Soil sampling took place on site.
- September 2014 – Soil sampling report submitted to DNREC for review.
- March through May 2015 – Demolition and closure of the transfer station.

Section 2 – Closure Summary

The closure summary plan outlined in this section provides information on the methods, procedures, and processes employed by the City during closure of the Transfer Station. When the closure plan was submitted to DNREC in April of 2014 the City intended on contracting out the work necessary to complete the closure plan. However, as a result of identifying an opportunity for significant savings based on estimates received the closure activities were completed by City personnel. Photographs taken during closure are provided in Appendix A.

I. METHODS, PROCEDURES, AND PROCESSES FOR CLOSURE

The City demolished and removed all of the components used to compact and transfer waste located on the site. The following parts of this section describe the major components found on-site that were modified or demolished, as necessary, to complete the closure of the transfer station.

A. UTILITIES

Before closure, the transfer station contained electric, potable water, storm and sanitary sewer utilities in various degrees of operation. The layout and approximate location of each of these utilities is shown in Figure 2.1. Due to the anticipated post-closure use, all of the existing utilities have been removed as further outlined in this section.

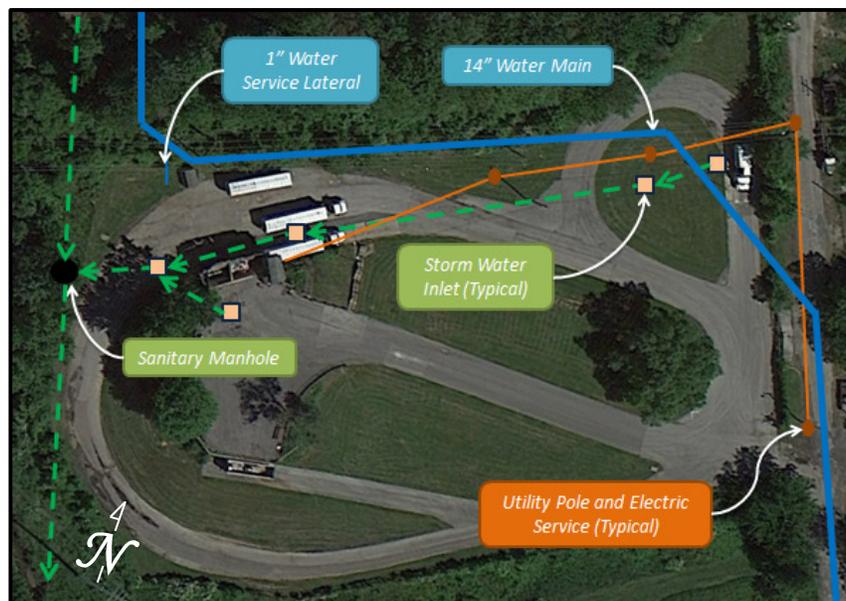


Figure 2.1: Existing Utility Location

i. Electric

Through the use of utility poles and overhead wires, electrical power provided by the City’s electric department powered the drive on-scale, lights, operator’s building, and trash compactor. Using in-house staff, the City disconnected the power at the junction pole located on Old South Chapel Street and removed all of the distribution overhead wires and utility poles from the site. High power transmission lines remain along the north fence line of the property.

ii. Water

A 14-inch transmission water main located in the cart path of Old South Chapel Street provides water to nearby residents as well as the transfer station. A one inch service lateral from the six inch main provides water to the transfer station through a hose bib connection on the north side of the site. The water service was disconnected by City personnel at the connection to the main and buried four feet below grade. A metal stake protruding out of the ground four feet and painted blue marks the location of the capped one inch lateral should the need arise for a future water connection.

iii. Storm and Sanitary Sewer

As a result of the hauling, compacting, and distribution of waste with varying degrees of materials and pollutants, the storm water system on-site was connected to the 14-inch gravity sanitary sewer interceptor located on the western edge of the transfer station facility. During demolition, the entire storm water system was removed and disposed of at a landfill. The connection to the sanitary sewer system was plugged from the inside of the manhole to ensure that sediment and ground water will not enter the sanitary sewer system.

B. EQUIPMENT

All of the equipment used to compact trash was demolished and removed from the site. Figure 2.2 illustrates the equipment that was demolished during this closure. The following paragraphs detail how demolition of the transfer station equipment occurred.

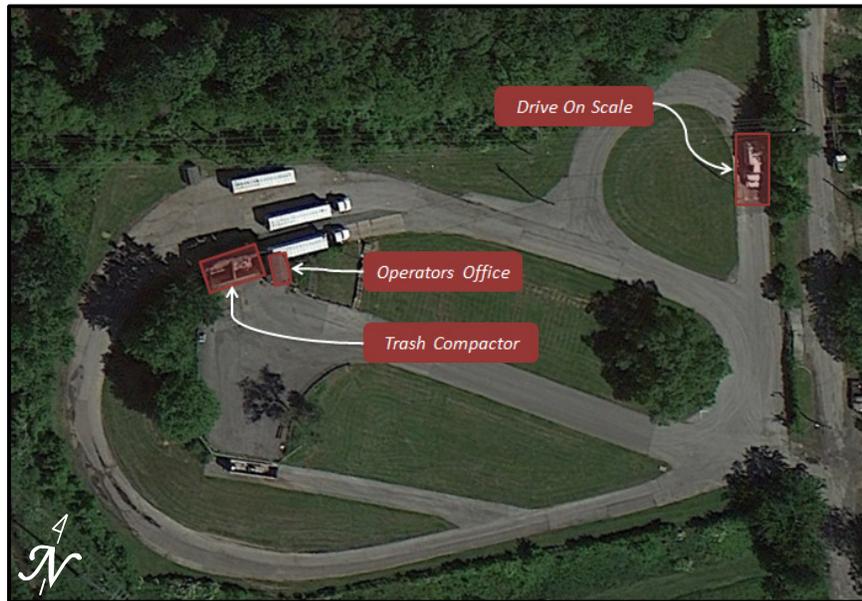


Figure 2.2: Equipment Location

i. Drive-On Scale

Located in the eastern section of the transfer station, the drive-on scale weighed tractor trailers to ensure compliance with state regulations on weight restrictions. Located at-grade for ease of entrance and exit for trucks, the working components of the scale extend into a six feet deep concrete pit. The City disposed of all of the scale components, such as the drive on slab, pistons, electrical equipment, and steel substructure. To prevent future settlement, the concrete pit was filled with AASHTO #57 to one foot below finished grade. Before the pit was filled with stone, holes were drilled into the bottom of the pit to reduce hydrostatic pressure and prevent uplifting of the structure.

ii. Trash Compactor

The trash compactor, which consists of a steel superstructure, hopper, and hydraulic ram, was completely removed. Prior to removal of the trash compactor, all hydraulic fluid was drained and properly disposed of.

iii. Operators Office

An 8-foot by 16-foot shed located adjacent to the trash compactor, as shown in Figure 2.3, served as the office for the transfer station operators. This office consisted of filing cabinets, a desk, a toilet, and a means to escape the weather during periods of extreme heat and cold. Stored in the filing cabinets were log books, operation and maintenance manuals, as well as permits and drawings of the transfer station. The operator's office was demolished and disposed of at the landfill.



Figure 2.3: Operators Office and Trash Hopper

C. SITE FEATURES

In the original closure plan submitted to DNREC in May of 2014 many existing site features were expected to be removed to accommodate the expected future use of the transfer station site. As the design of the site progressed it became apparent that many of the site features should remain. Listed below are the items originally intended to be demolished. For certain items, an explanation is provided as to why the item will remain.

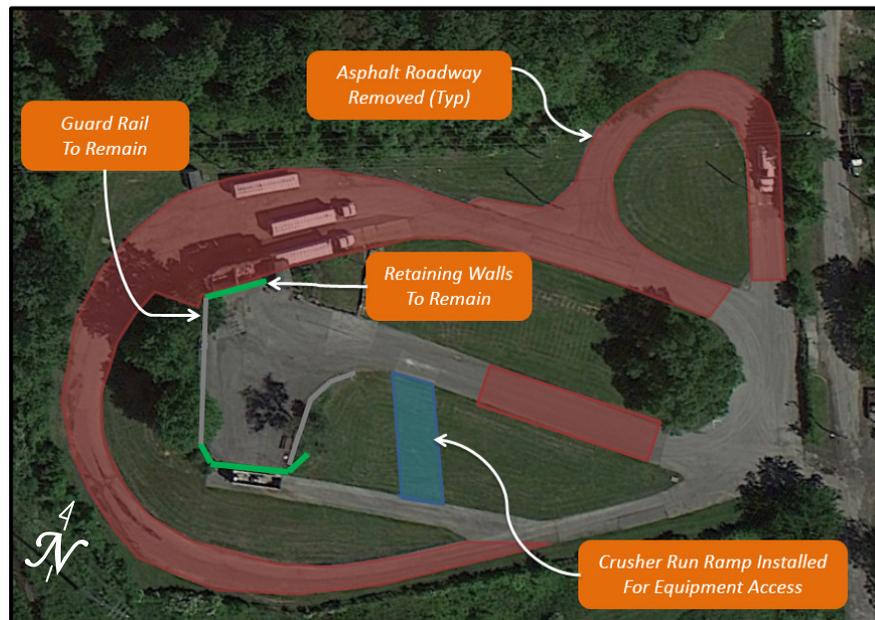


Figure 2.4: Site Features - Demolition

- i. Asphalt Roadway**

The majority of the asphalt roadways that traverse the site was removed with the exception of the entrance area and portions of the elevated area as outlined in Figure 2.4. The entrance area will be kept under asphalt to provide an off street area for parking of cars, trucks, and equipment.
- ii. Retaining Walls**

To effectively transfer waste from the City’s dump trucks to the compactor and metals recycling container, retaining walls were installed to elevate the dump site. The retaining walls are comprised of sheet metal driven into the ground to an unknown depth. Removal of the existing retaining walls did not occur as the retaining walls provided significant slope stability to the elevated dump site.



Figure 2.5: Southern Retaining Wall

iii. Guard Rails

Guard rails were installed to keep trucks from driving over steep drop off edges around the dumping area. To ensure the safety of workers near the retaining walls the guard rails will remain in place.

D. GRADING

After the utilities were disconnected; the equipment and site features demolished; and all debris has been removed from the site, final grading occurred. Grading ensures that storm water does not pond on the site.

Appendix A – Demolition Photos



Photo 1: Compactor Removal



Photo 2: Compactor Removal

Appendix A – Demolition Photos



Photo 3: Asphalt Roadway Removal



Photo 4: Demolition of the Drive On Scale

Appendix A – Demolition Photos



Photo 5: Capping Sanitary Sewer Connection



Photo 6: Concrete Demolition & Removal At Compactor Area

Appendix A – Demolition Photos



Photo 7: Concrete Demolition & Removal at Compactor Area



Photo 8: Trench Box Installation for Utility Demolition and Removal