Acknowledgments
Excellent facilities are the result of teamwork.
We gratefully acknowledge the contributions made by all members of our team:

- King Engineering Associates, Inc., Tampa, Florida – Prime Engineer
- CH2M HILL, Gainesville, Florida – Architect, Engineer
- J. Kokolakis Contracting, Inc., Tarpon Springs, Florida – Construction Contractor
Executive Summary

Hillsborough County, Florida owns and operates two solid waste transfer stations constructed in the 1970s and 1980s. In 2004, the County initiated a program to expand and reconstruct both transfer stations in order to address their ages, and to provide adequate customer service and capacity for the next 25 years. After extensive planning and analysis, the South County Transfer Facility was the first site constructed. Other than the existing administration building and Household Hazardous Waste Collection Center, the site has been completely reconstructed with the following new facilities: a scale house and scales, a topload transfer station with a 1,000 ton per day permitted capacity, a Community Collection Center, a 10-acre yard and wood waste processing facility, an 8-acre trailer staging and maintenance area, a fuel storage and dispensing facility and miscellaneous equipment storage areas. The entire facility was designed to aesthetically fit into its surroundings and includes the latest innovations to allow for safe, efficient and cost-effective operations. The newly constructed site benefits the County’s residents by providing an easy to use, safe and aesthetically pleasing “One Stop Shop” to dispose of their wastes in a fast and user friendly manner.

Designed with Innovation

The original South County Transfer Station (SCTF) was constructed in 1978 on a 10-acre site and consisted of a scale house with in-ground inbound and outbound scales; a metal transfer station building with no tipping floor, two push pits on the upper level and two hydraulic compactors on the lower level; a small block office building and several trailers used for administration. In 1980, a Community Collection Center (CCC) was added to the site to allow County residents to drop off non-processible items. The CCC consisted of an elevated ramp area and a concrete “Z-wall” with rolloff containers on the lower side of the wall. In 1997, the County purchased the adjacent 10-acre lot to the north of the existing 10-acres and constructed an 8-acre crushed concrete and asphalt yard and wood waste processing facility (YWPF.) A 6,000 square foot administration building was also added to the 40-acre site in 2003. These later facilities were all placed and designed in anticipation of a future site reconstruction.

The original facility was capable of processing four hundred (400) tons of refuse per day. This technique sufficed for almost thirty years until it succumbed to the inevitable, obsolescence. The compaction station began to feel the growing pains several years ago, when the suburban sprawl reached the south county area. Our processed tonnage was steadily increasing, resulting in a need for new and updated equipment. In addition, the transfer station had no storage capability, thereby requiring the customer to wait in line to unload until the compactor pit was cleared. The traffic would eventually back up, which resulted in increased wait times. Safety issues became apparent.

Our compaction machinery was antiquated resulting in daily maintenance. Parts were outdated and difficult to purchase. Downtime was customary and expenditures were at a level that necessitated replacement to be cost effective. The transfer trailers’ litter containment components were very heavy and reduced the overall carrying capacity of the trailers. A reconstructed, state-of-the-art facility was needed to address the current and growing needs of the County’s residents.

After extensive planning, design, permitting and construction efforts, the new facility was completed and consists of:

Transfer Facility Building

The transfer facility building consists of a 28,300 square foot upper level (tipping floor) and a 9,600 square foot lower level (tunnel). The building is cast-in-place concrete construction from the tunnel up to a height of 20 feet above the tipping floor, above which is a pre-engineered metal building. The entire structure is designed to meet today’s hurricane standards and a 120 mile per hour wind speed. Commercial and private haulers enter the upper level through the door on the east side of the building, discharge their load on the tipping floor, and exit the building through the door in the northwest corner. The trash is pushed into one of two open pits by a front-end loader and into a transfer trailer in the tunnel below. The load in the transfer trailer is groomed and compacted by knuckleboom cranes before the trailer exits the building.
Scale Facility

The scale facility consists of a 900 square foot scale house with two inbound and one outbound scales all under a metal canopy. The scale house has a customer service area large enough to accommodate four (4) scale attendants, a kitchen/break area, an Information Technologies (IT) closet, an electrical room and a restroom.

Community Collection Center (CCC)

Since instituting its countywide CCC program, Hillsborough County has seen a dramatic decrease in roadside dumping. The new CCC is one of five in the County and consists of an elevated area behind a “Z” shaped retaining wall that allows for the positioning of seventeen 60 yard, low profile rolloff containers. County residents are free to use the CCC for disposal of non-processible wastes that may otherwise be disposed of improperly. A number of elements were considered at great length in order to provide customers with a CCC that is easy and safe to use.

Yard Waste Processing Facility

The yard waste processing facility consists of ±8 acres of crushed concrete base that serves as a working surface and ±2 acres of asphalt that is used for tub grinding and processing of screened “unders”. The facility is integrated into the site traffic patterns and shares use of the scale facility with the transfer station. The entire working surface has been raised and sloped to improve drainage and has been provided with a concrete fuel tank containment area and process water hose bibs around its perimeter.

Ancillary Facilities

In addition to the main components of the site, a number of ancillary facilities were also constructed to improve operations and customer service. These include:

- **Hot Load Pad with leachate collection**, outside the transfer station, that can be used in the event of a fire in an incoming load.
- **A 700 kW standby generator** capable of powering the entire site.
- **A 12,000 gallon diesel fuel storage and dispensing system** that also serves as a bulk storage tank for the standby generator. The system is fully automated and communicates directly with the Countywide fuel inventory system. Transfer trailers and equipment no longer need to leave the site for fuel.
- **An air conditioned electrical building** separate from the transfer station building in order to protect electrical equipment from dirt and dust.

All of the above were constructed, and the old facility was demolished, **without closing down the facility**. Not even for one day!

Full Service Integrated Facility

The site provides full solid waste service to the County’s residents and includes a transfer station for commercial and private haulers, a community collection center for residential non-processible trash drop off, white goods collection and storage, household hazardous waste collection and yard and wood waste collection and processing.

Safe and Efficient Traffic Flow

- **Internal roadways allow for maximum separation** of commercial hauler, County and residential traffic streams while also providing queuing volume large enough to avoid blocking other traffic streams.
- **Similar to an airport**, internal signage directs customers to their appropriate destination using color coded symbols and lettering.
Lots of Working Space

- A large dedicated, lighted paved area (±8-acres), integral to the internal traffic pattern, allows the County to stage and maintain equipment at all times of the day.

- Dedicated pads have been provided for storage of white goods and County rolloff containers.

- An expanded 10 acre yard waste processing area with crushed concrete and asphalt working surfaces provides ample area to receive, process and store yard and wood waste.

- The new CCC has slots for 17 rolloff containers and provides adequate space for customer vehicles to safely maneuver while maintaining traffic flow.

- The extra wide transfer station tunnel allows for ease of cleaning and maintenance.

- The transfer station tipping floor is large enough to store one design peak day’s delivery (±1,000 tons).

Protected from Storms

- The entire site has been raised above the 100-year flood plain and surrounding properties to provide adequate drainage and eliminate flooding.

- The upper level of the transfer station building, the electrical building and the standby generator are above the predicted storm surge elevation that could result from a Category 5 hurricane, allowing the facility to resume operations in a short period of time following such a storm.

Ventilation and Odor Control

Both the upper and lower levels have a system of supply and exhaust fans controlled based on temperature. The ventilation system has been designed to provide 12 air changes per hour to minimize odors.

Good Neighbor

- The site is buffered from the adjacent state highway by a 4 foot high landscaped berm topped with a 6 foot high opaque PVC fence. Only the tops of the buildings are visible from a majority of the highway along the property frontage.

- The site and the buildings have been specifically designed to be aesthetically pleasing and to blend into the surrounding community.

- Other than the two rollup doors, the transfer station upper level is fully enclosed, thus containing noise and minimizing the intrusion of birds and the potential for odors outside the building.

Landscape Plan
Integrated and Environmentally Friendly

The Hillsborough County Public Utility Department’s Mission Statement for its Solid Waste System is to “Provide for the effective, efficient, and environmentally sensitive collection, transportation and disposition of all of the solid waste generated in or brought into the Hillsborough County Solid Waste System.” The system is full service and totally integrated with a 1,800 tons per day Waste-to-Energy Facility, 4,000 acre Class I Landfill Facility, two Transfer Facilities, three Yard Waste Processing Facilities, five Community Collection Centers, three Household Chemical and Electronic Collection Centers, a Waste Tire Processing Facility and a range of recycling residential and commercial recycling programs. The system is at the forefront of public/private partnerships, with the County owning all of its facilities but contracting out their operation and solid waste collection services. Over 85% of the services provided by the Solid Waste System are through private contractors, many of which are the industry leaders in their areas of responsibilities. The Hillsborough County Public Utilities Department is proud of its integrated solid waste system that manages approximately 1,000,000 tons annually. The HCSWS complements and supports the solid waste management systems of the other municipalities within Hillsborough County by providing landfill services to Tampa, full disposal services to Temple Terrace, as well as Household Chemical and Electronics collection services to the entire County.

Environmentally Friendly

The entire facility was designed and is operated with the goal of protecting the environment. Construction of the new facility required that eleven permits be obtained from regulatory agencies. Several of these permits remain in place during operation, and the County is obligated to operate according to their provisions. Of primary importance are the Florida Department of Environmental Protection (FDEP) Solid Waste Facility Permit, the FDEP Environmental Resource Permit (for stormwater) and the Solid Waste Director’s Authorization from the Environmental Protection Commission of Hillsborough County (EPC). In addition to adhering to the conditions in these permits, the facility inherently protects the environment. A copy of the most recent inspection report from the EPC, documenting the facility’s outstanding environmental compliance, is provided with the Supplemental Materials.

Controlling Litter

- The enclosed Transfer Station provides a barrier against escaped litter with the perimeter fencing as a final barrier. Spilled or scattered wastes are promptly swept up. Containers and vehicles are sealed or covered except when operations require otherwise. Crews regularly perform litter cleanup and respond when weather conditions aggravate the escape of litter.

- By improving commercial haulers’ ability to dispose of collected wastes in an efficient and timely manner, the facility reduces the time that trash remains curbside, improves customer service and improves residents’ ability to properly dispose of trash.

Controlling Leachate

The Transfer Station is fitted with trench drains, sumps and drain lines to collect and store leachate and washdown water. A gravity system conveys the leachate from these systems and the hot load pad to a pump station and above ground storage tank for eventual offsite disposal. Facility and equipment inspections, combined with monitoring of the storage tank containment area, detect potential sources of leachate leaks to the environment and allow early corrective actions to be implemented if necessary. Transfer trailers walking floors and rear doors are “leak proof” in order to minimize leakage in transit to the landfill.

Controlling Odors

Solid waste is handled in a totally enclosed building. Under normal operating conditions, refuse is removed from the tipping floor to enclosed trailers soon after it is dumped. Odorous wastes are mixed with non-odorous wastes while loading trailers to mitigate odors. We have set an operational goal to tip and push odorous wastes on a priority basis, and to haul trailers containing odorous wastes offsite on a priority basis. Tipped wastes are handled on a first in-first out basis and leachate sumps are cleaned regularly. If needed, washdowns, including the use of appropriate chemical deodorizers, degreasers, and soaps, can be used to eliminate odors.
Controlling Pests

Vectors are controlled by all of the procedures and design features mentioned for litter and odor control. The enclosed building also reduces the entrance of birds. Our staff regularly inspects and maintains systems to detect and control vectors.

Minimal Noise Levels

Noise is controlled by the totally enclosed design and operating equipment at the minimum throttle needed for operations.

Conserving Water

The transfer station tipping floor has been provided with high pressure hose bibs that are supplied with either non-potable groundwater or reclaimed water, thus conserving potable water;

Reduced Power Consumption

The transfer station tipping floor and tunnel walls have translucent panels and glass block to provide natural lighting and reduce power consumption. In addition, lighting systems were designed in banks so that only portions of the lights can be activated as necessary.

Recycling

- Over 2,900 tons of steel and concrete collected during demolition of the old transfer station and CCC was recycled.
- Customers can bring tires, yard and wood waste, automotive batteries and metals including white goods and more to the site. They can bring the entire spectrum of household hazardous materials, and be assured these materials will be properly recycled or disposed of, free of charge, in an easy to use, drive-through facility that allows for all weather operation. Solid waste programs that would otherwise be scattered around the county are unified and integrated at one site.

Providing Proper Disposal of Household Wastes

The Household Hazardous Waste Collection Center (HHW) Collection Center allows residents to properly dispose of unwanted household chemicals, propane tanks and pharmaceuticals that may otherwise end up in the municipal waste stream or pollute the environment.

Preventing Spills

The site has an approved Spill Prevention, Control and Countermeasures Plan for the fuel storage area pursuant to EPA regulations §112.7(d) of 40 CFR 112.

Eliminating Nuisance Vegetation

As part of construction, all nuisance species vegetation was removed and the County currently has a maintenance program in place to control their re-growth.

Controlling and Treating Stormwater

The site stormwater system was designed to limit stormwater discharges to levels equal to or below those of the original facility in order to have no additional impact on downstream sites. In addition, stormwater ponds have been constructed with vegetated littoral shelves in order to reduce nutrients in the stormwater discharges that ultimately flow into protected wetlands and the Tampa Bay Estuary.
Planning Made the Difference

The County, through its Capital Improvement Program planning process, is meeting its customer’s needs and capital infrastructure requirements for the next 25-30 years by the planning and executing of upgrades and expansions to its integrated solid waste management system. The County recently completed expansion of its Waste-to-Energy Facility from 1,200 tons per day to 1,800 tons per day. Its landfill capacity expansion is planned through a new 120 acre landfill that has its initial phases completed and operational, with additional phases in design. The new landfill complements the existing 164 acre Class I landfill with 15-20 years of remaining capacity.

The County through this nominated project, the South County Transfer Facility, and its sister transfer station upgrade at the Northwest County Transfer Station, is addressing its long term transfer capability needs. The County determined in 2004 that its current transfer stations were approaching the useful life of the facilities, with the South County Transfer Facility being a 25 year old compactor system, and the Northwest County Transfer Station being 30 years old and not being expected to meet the future growth in the area.

To address these needs, funding to properly plan, design, permit and site two new transfer stations to replace the two aging facilities was included in the CIP budget. The resulting planning process was very effective in determining the operational needs of the site and in providing for a new facility that exceeds the goals and expectations established during the planning process.

Research with Users Drove the Facility Design

Having operated two transfer stations for over 25 years, Hillsborough County Solid Waste staff was acutely aware of what they wanted in a new facility.

- We visited other transfer station sites in Florida and other states to see their systems, discuss operations with their staff and explore the latest technologies.
- We met with the County’s commercial haulers to determine their needs and goals.
- We conducted an extensive Preliminary Engineering effort to define the design concept for the new facility.

Preliminary Engineering Effort Goals

- Define 20-year Capacity Requirements
- Select Transfer Station Technology (Top Load vs. Compactors)
- Eliminate Flooding During Storms
- Harden Against Hurricanes
- Separate Traffic Streams
- Provide Adequate Queuing Volume
- Provide Storage and Maintenance Areas for Equipment
- Establish Building Design and Architectural Elements
- Aesthetics and Buffering from Surrounding Area
Efficient and Cost Effective Operation

The facility has been designed with a number of features that promote efficient and worker-friendly operation.

**Easy to Clean Tunnel**

The transfer station tunnel is wide enough to allow cleaning and litter removal even with trailers positioned under the chutes. In addition, the tunnel wall has been provided with steel plating to allow front-end loaders to use the wall as a push wall during cleaning without damaging the concrete.

**Lots of Storage Space**

The tipping floor has been provided with 20’ high, steel clad push walls to allow for mounding trash and breaking up bulky items using the front-end loader.

**Flexible Tipping Floor**

Rather than dedicate an area for private haulers to unload, the tipping floor is divided for use by commercial and private haulers using movable concrete barriers. This allows the County to adjust the size of the tipping floor unloading areas in response to seasonal variations.

**Easy to Clean Metal Building**

The inner panels of the transfer station metal building have been provided with a liner that covers the structural elements, eliminates horizontal surfaces that collect dirt and allows for washdown with a hose.

**Full View and Tamper Access to Loading Pits**

- Crane operators have full view of the tipping floor, the loading pits and the maintenance area behind the pits from the air conditioned operators booth.
- The pit design provides operators with full view of the top of the transfer trailer load.
- Unlike most facilities that have crane access dead zones, the knuckleboom cranes are capable of tamping, compacting and grooming almost 100% of the top open face of the trash in the trailer below.

**Crane Maintenance and Storage Area**

A large working and equipment storage area has been provided behind the loading pits allowing the County to maintain the cranes from behind without interfering with tipping floor operations.

**Maximizing Trailer Payload within Legal Limit**

Transfer trailer on-board scale readouts, visible from the tipping floor and the operators’ booth, have been provided above the tipping floor push walls to maximize trailer loads and yet not exceed the maximum allowable 80,000 pound weight limit.

**Cameras Help Us See What’s Going On**

- The tipping floor and tunnel have been outfitted with a combination fixed and pan/tilt/zoom closed circuit television (CCTV) system. CCTV system controls and displays have been provided at both stations in the operator’s booth, in the scale house and in the five offices in the administration building.
- CCTV cameras allow scale house attendants to view the tops of loads without leaving their work station and also record activities at both windows for security purposes.
User Friendly Scale House

- Scale house workstations and break areas are ergonomically designed to allow scale house attendants to function comfortably and safely with full view of oncoming and exiting vehicles. Attendants should never need to leave the scale house to complete a transaction.

- Scale house service window heights are designed to address varying vehicle heights while also allowing customers to conduct window transactions under the protection of the canopy.

- Above ground scales make maintenance and litter control easy.

Flexible and Automated Scale System

- A reversible scale lane (inbound, inside scale) that can serve as both an inbound and outbound scale if necessary to suit staffing limitations.

- Automated scale systems include a pneumatic tube system and a driver ticket box serving the inbound outside scale and the reversed side of the inbound inside scale and traffic lights that indicate to drivers when it is appropriate to approach and exit the scales.

- Radio Frequency Identification (RFID) systems on all scales that allow commercial haulers to weigh in and out without interacting with a scale house attendant.

Easy to Access CCC

County staff can “pull” and replace full rolloff containers at the CCC using dedicated service roads without mixing with customer traffic.

Cost Effective

The Hillsborough County solid Waste System has a solid financial foundation by being an Enterprise fund that incorporates Flow Control, Annual Residential Collection and Disposal Non-Ad Valorem Assessments, and full cost accounting. The County’s annual residential collection and disposal assessments of $135.02 and $96.15 are some of the lowest rates in the Tampa Bay area and the State of Florida.

The new facility, which opened in February 2010, has met or exceeded performance expectations in nearly every aspect. The facility has operated well under budget and has maintained projections for the cost per ton for waste transferred to the County waste-to-energy facility and landfill.
State-of-the-Art Equipment and Technologies

Prior to starting the final design, available technologies were evaluated and weighed against each other from an operations, maintenance and economic standpoint. As a result, the facility is equipped with the newest and most modern processing equipment and technology.

Crane System Reduces Exhaust Fumes and Offers Operator Comfort

Our electric knuckleboom cranes can access every part of the loaded trailer to distribute and compact wastes efficiently. The cranes are equipped with a tamping head/grapple attachment which allows the operator to remove material from the trailer if necessary. The electric crane system eliminates the exhaust fumes in the building compared to the typical combustion engine grapple. The operator is more comfortable and has better visibility in a conditioned glass operator’s booth removed from ambient noise, dust, temperature and humidity. In this booth, the operator has virtually a 360 degree view of the entire transfer station allowing for greater monitoring of vehicle traffic and equipment and pedestrian activity.

Oversized Doors Ensure Safe Exit from the Tipping Floor

Oversized (20-feet-wide by 28-feet-tall) entry and exit doors to the tipping floor allow commercial vehicles to exit with their load in a tipped position, ensuring trucks can exit in the event of a breakdown.

Large Ventilation Fans Minimize Dust and Exhaust Odors

Ten upblast ventilation fans and ten wall mounted supply fans provide 12 air changes per hour on the tipping floor. The size of these fans and the high number of air exchanges minimizes atmospheric dust and exhausts odors high into the outside air for dilution. Six wall mounted fans in the tunnel provide the same benefit.

Optimized Trailers Ensure Maximum Payloads

We enlarged our transfer trailers to forty eight feet to increase their capacity. We were also able to reduce the trailer weight significantly to increase the payload by three tons. The trailers include a walking floor system, a mesh type top cover, a leak proof floor and on-board scales. When drivers enter the tunnel and begin loading, these scales communicate axle weights to the crane and front-end loader operators via a wall mounted digital readout at the tipping floor. The crane operator determines an appropriate weight that maximizes payloads within legal weight limits.

Automated Scale System Saves Driver Time

A computer system at in the scale house maintains a tare (empty) weight for the individual vehicles along with billing information. RFID systems on the inbound and outbound scales automatically identify trucks as they enter and exit the facility. Commercial haulers can drive in, get a printout of their weight from a remote driver box, empty their load and leave the facility without exiting their vehicles or interacting with scale house personnel.

Heavy Equipment Keeps the Trash Moving

The transfer station utilizes John Deere 944 loaders equipped with a solid waste package which includes solid tires, extended reach with oversized bucket and beefed up engine and hydraulic components. These loaders are used to move, stack and push waste inside the transfer station. A John Deere 544 loader equipped with a solid waste package is used to sweep and clean out material that has accumulated in...
the loading bays during the loading process. This keeps the loading bays clean and safe and helps insure compliance with regulatory requirements.

**Fire Protection Safeguards Operate Without the Need for Human Intervention**

The fire sprinkler protection system has extra safety measures for protection. In the event of a fire, the release of fire flow water at over 800 gallons per minute is automated without the need for human intervention. Simultaneously, a dialing alarm system sends warning signals to the fire department and key personnel.

**Standby Generator Keeps the Entire Facility Running in a Power Outage**

Because of its use of topload technology, the facility can operate with or without electrical power. Regardless, the facility is equipped with a 725 kW standby generator that is capable of powering the entire site in the event of a power failure. A reserve capacity of 3,000 gallons in the 12,000 gallon diesel fuel storage tank ensures that the facility will have enough fuel to operate at least 3 days on generator power.

**CCTV System Let Operators See What’s Happening and Provides Security**

A site-wide closed circuit TV system allows operators in the administration building, scale house and tipping floor operator’s booth to observe the overall site, the scale house windows and interior, the tunnel and the tipping floor from their desks. Camera images are recorded by digital video recorders and can be watched later if necessary.

**Automated Fuel System Monitors Supply and Consumption**

The 12,000 gallon diesel fuel storage and dispensing system, and the generator base fuel tank, are outfitted with level monitors that activate automatic alarms and cutoffs in the event of low or high fuel levels. Buried fuel lines are in dual wall piping with leak detection sumps. Alarms and readouts are available at the generator, the storage tank and in the administration building. The fuel dispensing system includes the newest Fuel Master equipment that automatically recognizes County vehicles, activates the pump and records the amount of fuel dispensed. The Fuel Master system communicates directly with the County Fleet Maintenance Division through a modem and dial-in connection.

**Leachate Storage System Instrumentation Provides Backup Monitoring**

The fiberglass leachate storage tank is equipped with a clear translucent strip to allow operators to observe the level of leachate in the tank. This is supplemented by a pressure driven level gauge at the base of the tank and an ultrasonic level sensor in the tank. The ultrasonic level sensor has a remote display mounted on the wall of the containment structure that displays the level of leachate in the tank and also sounds an alarm when the tank is 75% full. The containment structure has a float switch and alarm unit that sounds if the level of the fluid in the structure exceeds 4” in depth – indicating a possible leak or stormwater retained in the structure. The leachate pump station is also provided with a high level alarm should the level of leachate in the wet well reach that of the gravity conveyance system.

**Site-wide Telecommunications and Computer System**

As part of construction, entirely new communications and data systems were integrated throughout the facility on a full T1 Data Circuit. The site is equipped with Voice Over IP for all phones and computers located in the Administration Building, Scale house, Transfer Station Control Booth and Community Collection Center Attendant Building that work through the wide area network. All information from the site transmits to and from the County Center located in downtown Tampa, 15 miles from the site.
A Safe and Healthy Work Environment

We can assure our staff and customers that the site has been designed with their health and safety in mind. Traffic flow has been designed to minimize conflicts. Handling of most wastes occurs inside the totally enclosed Transfer Station building to limit the nuisance potential of these wastes. The tipping floor provides ample room for customers to tip their loads without coming into contact with Transfer Station equipment operations. Small-load haulers tip at a designated tipping area so they don’t have to compete with larger commercial vehicles. Private citizens have their own drop-off area at the CCC. Because solid waste operations have the potential to be risky, our comprehensive health and safety program is intended to cover all aspects of health and safety for our employees, our contractors, and the public.

Customers are Separated by User and by Waste Type

For safety and efficiency, we separate transfer station, yard waste facility, CCC and HHW customers.

The site is equipped with ample signage, directional signs, and traffic signals. Customers are protected from inclement weather with a canopy at the scalehouse, where they receive instructions on how to proceed from the scalehouse attendants without exiting their vehicles. Customers at the CCC are provided with their own entrance and exit from the site and are directed to the proper rolloff containers based on their material types by the CCC attendant. The same holds true for HHW customers.

Fire Sprinkler Protection System Automated for Safety

The transfer station fire sprinkler protection system has extra safety measures for protection. In the event of a fire, the release of fire flow water is automated without the need for human intervention. Simultaneously, warning lights and alarm horns situated throughout the transfer station are activated while signals are sent to the fire department and key personnel.

Proper Training

Operators and spotters are trained in accordance with subsection 62-701.320(15) of the Florida Administrative Codes. An adequate number of trained operators are on duty at the tipping floor all times that the transfer station is receiving waste and a trained spotter is on duty at all times that the transfer

<table>
<thead>
<tr>
<th>Training Subject Areas</th>
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<tbody>
<tr>
<td>- General Maintenance of Equipment</td>
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<tr>
<td>- Knowledge of Materials Handled</td>
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<tr>
<td>- Health Effects of Materials Handled</td>
</tr>
<tr>
<td>- Basic House Keeping Procedures</td>
</tr>
<tr>
<td>- OSHA Workplace Safety Regulations</td>
</tr>
<tr>
<td>- Equipment Operational Parameters and Requirements</td>
</tr>
<tr>
<td>- Contingency/Emergency Plan Procedures</td>
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<tr>
<td>- Inspection and Reporting Procedures</td>
</tr>
<tr>
<td>- Hazard Communication/Right to Know</td>
</tr>
<tr>
<td>- Compliance with Applicable Laws and Regulations</td>
</tr>
<tr>
<td>- Fire Safety Procedures</td>
</tr>
<tr>
<td>- Identification, Classification, Transportation and Proper Disposal of Wastes</td>
</tr>
</tbody>
</table>

Operators and spotters will be trained in initial and refresher courses offered by University of Florida TREEO to meet with the requirements of subsection 62-701.320(15) F.A.C. Selected individuals are also trained and certified in heavy equipment operation. Employees who work on the tipping floor such as spotters and equipment operators have been trained relative to the identification and labeling associated with hazardous wastes as well as infectious wastes. In addition, employees that drive County owned vehicles are required to take a defensive driving class, Community Collection Center attendants are required to have customer service training and heavy equipment operators go through vigorous maintenance and safety training on all equipment. Hillsborough County Public Utilities Department has a 20 hour minimum annual training requirement for each employee and, depending on position, an employee may have the following training First-Aid/CPR, Fall Protection, National Incident Management System ( NIMS), Diversity Training, Accident Investigation, and Heat Stress.
Proper Procedures

As part of the project, a complete Operation, Maintenance and Contingency Plan was developed for the site. The Plan outlines facility operations, wastes accepted and not accepted, equipment, waste streams, leachate management procedures, safety guidelines and emergency response procedures. County staff is required to know the requirements of the Plan. Copies of the Plan are available on site for reference.

Proper Equipment

The Hillsborough County Public Utilities Department supplies personal protection equipment to all employees (e.g. head, eye, face, hand, and foot protection) at no charge to the employee. The wearing of personal protection equipment is strictly enforced for the safety of the employee. Approved hearing protective equipment is available to every employee working in noisy areas; signs are posted as well to inform employees to wear hearing protection. Safety vests are required at all times when entering the transfer station property and hard hats must be worn by everyone entering the transfer station building. Eye wash facilities and a quick drench shower have been provided in the work area for employees exposed to injurious materials. First-aid kits are easily accessible at each work area, with necessary supplies available, periodically inspected and replenished as needed.

Excellent Safety Record

Due to the ongoing safety training and the safety features included in the design of the transfer station, injuries in the transfer station have been minor. This is illustrated in the Table below, which lists the most common types of injuries and the number of occurrences between February 2010 and February 2011.

<table>
<thead>
<tr>
<th>Type of Injury</th>
<th>Number of Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backing</td>
<td>2</td>
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<tr>
<td>Rear End Collision</td>
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</tr>
<tr>
<td>Traffic Accidents</td>
<td>0</td>
</tr>
<tr>
<td>Falling</td>
<td>1</td>
</tr>
<tr>
<td>Lifting/Pushing</td>
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</tr>
<tr>
<td>Tipover</td>
<td>0</td>
</tr>
<tr>
<td>Crushing</td>
<td>0</td>
</tr>
<tr>
<td>Lock Out/Tag Out</td>
<td>0</td>
</tr>
<tr>
<td>Overhead Hazards</td>
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<tr>
<td>Sharps/Medical Waste</td>
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</tr>
<tr>
<td>Lack of PPE</td>
<td>0</td>
</tr>
<tr>
<td>Weather Related</td>
<td>0</td>
</tr>
</tbody>
</table>
An Aesthetically Pleasing Facility

We take pride in the appearance of our facilities and went to great lengths to fit into the surrounding neighborhood. Also, since the site is open to the public, we took great measures to make the interior of the site attractive and user-friendly.

**Color Coordinated Buildings**

Because the transfer station is constructed on a hill, it can be seen from a distance. To minimize its visual presence, an earth tone tan was chosen as its main color. This color was also used for the exterior of the scale house and the above ground leachate storage tank. The existing administration building has a royal blue metal roof. This blue was also included in the trim and metal flashings of the transfer station and scale house, and the metal roofing at the HHW facility.

**Architecturally Designed Transfer Station**

Rather than use a stock metal building for the transfer station, an architecturally designed metal panel was used in combination with alternating concrete walls. Rock-like form liners and a brown stain were used for the concrete walls to give them the appearance of stone. Translucent panels interspersed with fan louvers provide the appearance of windows in order to give the building a warehouse or office building look.

**Landscaped Berm Buffers the Site**

Drivers along US-41 do not see garbage trucks or transfer trailers when they look at the site from its front. Instead, they see the top of the transfer station above a 4 foot high landscaped berm with an opaque white PVC fence. Plantings along the berm include trees and shrubs that will grow over time and further obscure the view over the fence.

**Internal Landscaping Provides a Natural Look**

Open areas inside the site are sodded, with groupings of trees and shrubs to highlight parking lot islands and corners of buildings. An automatic sprinkler system supplied with either non-potable water or reclaimed water irrigates planted areas of the site.

**Dark Skies Lighting Spares the Neighbors the Glare**

County ordinances require that facilities such as this use parking lot light fixtures that are “Dark Skies” rated. Such fixtures concentrate their beam in a downward direction and do not contribute to the glare so common to industrialized areas. All paved areas of the site are lit with these fixtures.

**Open to the Public**

Hillsborough County provides tours of all of its facilities to a variety of civic and community groups, as well as a variety of speakers. The County also provides a variety of public education information resources to its residents and customers, examples of which are provided in the Supplemental Materials.
Hillsborough County offers a large selection of literature through brochures, flyers and newsletters to inform our residents of the various services we offer, as well as practices they can implement to keep the county clean, and even more importantly our environment.

The County also offers a quarterly newsletter titled “The Recycling Planet.” It is a report on managing the solid waste in our county. This report tells of local news related to our landfills and solid waste facilities. In any given newsletter information will be given out on rates, water restrictions, chemical collection, workshops, recycling, and much more. It is a source of information that educates and informs all ages in order to help the county maintain its high standards and practices.

These material help maintain our customer services with residents, which then helps make our fiscal, landfill, management/environmental, and transfer/operations services much more effective to the Hillsborough County Solid Waste Management Group.
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOLID WASTE MANAGEMENT FACILITY
INSPECTION CHECKLIST

Facility Name: SOUTH COUNTY SOLID WASTE TRANSFER STATION
WACs No.: SUD-29-41104 COMET Project Number: 503
Inspection Date: 2/25/2011 Permit No.: 35153-903-50/30 Expiration Date: 5/25/2012
Facility Address: 1300 SOUTH U.S. HIGHWAY 41
City: GIBSONTON County: HILLSBOROUGH Zip: 33534
Permittee or Operating Authority: SOLID WASTE MANAGEMENT DIV OF HC PUBLIC WORKS
Telephone Number (Permittee or Operating Authority): 813-221-5810 Site #: 813-271-1711
Inspection Participants (Include ALL Facility and Department Employees With Corresponding Titles):
Principal Inspector: TERENCE PAYTON (EPC)
Other Participants: NARRA CLIFFORD (OPERATIONS SUPERVISOR)

TYPE OF FACILITY (check all that apply):

- Landfill
- C&D Facility
- Waste Processing Facility
- Other Facilities:
  - Composting Facility
  - WTE Facility
  - Waste Tire Facility
  - Yard Trash Processing Facility
  - Stationary Soil Treatment Facility
  - Incinerator/Trash Burner
  - Unauthorized Disposal
- Other

TYPE OF INSPECTION (check all that apply):

- Operation
- Closure
- Long-Term Care
- Complaint Investigation
- Routine Inspection
- Follow-up Inspection
- Other

ATTACHMENTS TO THE INSPECTION CHECKLIST (check all that apply):

This Cover Page includes the following attachments.

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<th>Section No.</th>
<th>Section Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
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<tr>
<td>2.0</td>
<td>Landfill Operation and Maintenance</td>
</tr>
<tr>
<td>3.0</td>
<td>Landfill Long-Term Care</td>
</tr>
<tr>
<td>4.0</td>
<td>Waste Processing Facilities</td>
</tr>
<tr>
<td>5.0</td>
<td>C&amp;D Debris Disposal Facilities</td>
</tr>
<tr>
<td>6.0</td>
<td>Recycling Operations at C&amp;D Debris Disposal Facilities</td>
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<tr>
<td>7.0</td>
<td>Land Clearing Debris Disposal Facilities</td>
</tr>
<tr>
<td>8.0</td>
<td>Compost Facilities</td>
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<tr>
<td>9.0</td>
<td>Waste Tire Facilities</td>
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<tr>
<td>10.0</td>
<td>Yard Trash Processing Facilities</td>
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<tr>
<td>11.0</td>
<td>Stationary Soil Treatment Facilities</td>
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<tr>
<td>12.0</td>
<td>WTE Facilities</td>
</tr>
<tr>
<td>13.0</td>
<td>Complaint Investigations</td>
</tr>
<tr>
<td>14.0</td>
<td>Narrative and Signatures</td>
</tr>
</tbody>
</table>

(Revised 10/05)
## SOLID WASTE PROHIBITIONS (unless "grandfathered" in, see 62-701.300(16))

<table>
<thead>
<tr>
<th>Requirement</th>
<th>OK</th>
<th>Not OK</th>
<th>UNK</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Unauthorized disposal/storage prohibited, except yard trash, within 500' of a potable water well? (62-701.300(2)(b))</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2 Unauthorized disposal/storage prohibited, except yard trash, within 1000' of a potable water well serving a community water system? (62-701.300(2)(h))</td>
<td></td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td>4.3 Unauthorized storage/disposal of yard trash prohibited within the minimum setbacks of: (Check any that are Not OK: 62-701.300(12))</td>
<td>✓</td>
<td></td>
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<tr>
<td>□ 100 feet for potable water wells (except on-site)?</td>
<td>✓</td>
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<tr>
<td>□ 300 feet for water bodies?</td>
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<td></td>
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<tr>
<td>□ 200 feet for community water supply wells?</td>
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<tr>
<td>4.4 Unauthorized disposal/storage prohibited in an area subject to frequent and periodic flooding unless flood protection measures in place? (62-701.300(2)(c))</td>
<td>✓</td>
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</tr>
<tr>
<td>4.5 Unauthorized disposal/storage prohibited in any natural or artificial body of water including ground water? (62-701.300(2)(e))</td>
<td>✓</td>
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</tr>
<tr>
<td>4.6 Unauthorized disposal/storage prohibited, except yard trash, within 200' of any natural or artificial body of water, including wetlands without permanent leachate controls, except impoundments or conveyances which are part of an on-site, permitted stormwater management system or on-site water bodies with no off-site discharge? (62-701.300(2)(f))</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.7 Unauthorized open burning of solid waste prohibited except in accordance with Department requirements? (62-701.300(5))</td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td>4.8 Are the following prohibited wastes or special wastes properly managed? (Check any that are Not OK)</td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td>□ Hazardous waste 62-701.300(4)</td>
<td></td>
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<tr>
<td>□ Medical waste 62-701.300(6)</td>
<td>✓</td>
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<td></td>
</tr>
<tr>
<td>□ Lead-acid batteries 62-701.300(8)(a)(1)</td>
<td>✓</td>
<td></td>
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<td></td>
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<tr>
<td>□ Whole waste tires 62-701.300(8)(a)(2)</td>
<td>✓</td>
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<tr>
<td>□ Liquids 62-701.300(10)</td>
<td>✓</td>
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<tr>
<td>□ Used oil, except as exempted 62-701.300(11)</td>
<td>✓</td>
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</tr>
<tr>
<td>□ Lead-acid batteries, mercury-containing switches and lamps in WTEs 62-701.300(9)</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WASTE PROCESSING FACILITY OPERATION AND MAINTENANCE</td>
<td>OK</td>
<td>Not OK</td>
<td>UNK</td>
<td>N/A</td>
</tr>
<tr>
<td>4.9 Do the tipping, processing, sorting, storage and compaction areas that are in an enclosed building or covered area have adequate ventilation? (62-701.710(3)(a))</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.10 For areas not enclosed, is litter controlled and are litter control devices maintained? (62-701.710(3)(b))</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.11 Is leachate collection and removal system maintained and operated as required? (62-701.710(3)(b))</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.12 Are all drains and leachate conveyances kept clean so that leachate flow is not impeded? (62-701.710(4)(b))</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.13 Are the following records or plans current and available on-site? (Check any that are Not OK.)</td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td>□ Operation records 62-701.710(9)(a)</td>
<td></td>
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</tr>
<tr>
<td>4.14 Is the Operation and Maintenance Manual substantially followed? (62-701.710(4)(a).)</td>
<td>✓</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.15 Are putrescibles stored no longer than 48 hours or as otherwise allowed in the Operation and Maintenance Plan? (62-701.710(4)(b))</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### WASTE PROCESSING FACILITY OPERATION AND MAINTENANCE (continued)

<table>
<thead>
<tr>
<th>Question</th>
<th>OK</th>
<th>Not OK</th>
<th>Unk</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.16 Are areas where waste is stored or processed cleaned at least weekly to prevent odor and vector problems? 62-701.710(4)(b)</td>
<td>✔</td>
<td></td>
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</tr>
<tr>
<td>4.17 Are the operating hours posted at the facility? 62-701.710(4)(c)</td>
<td>✔</td>
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</tr>
<tr>
<td>4.18 Is a trained operator on duty whenever the facility is operating? 62-701.710(4)(c)</td>
<td>✔</td>
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</tr>
<tr>
<td>4.19 Is at least one trained spotter on duty at all times that waste is received at the facility to inspect the incoming waste? 62-701.710(4)(c)</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.20 Are prohibited materials removed from the waste stream and placed into appropriate containers for disposal at a permitted facility? 62-701.710(4)(c)</td>
<td>✔</td>
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</tr>
<tr>
<td>4.21 Is the facility operated to control objectionable odors? 62-701.710(4)(d)</td>
<td>✔</td>
<td></td>
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</tr>
<tr>
<td>4.22 Is adequate fire protection equipment available and operational? 62-701.710(4)(e)</td>
<td>✔</td>
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</tr>
<tr>
<td>4.23 Is access to the facility controlled by fencing or other effective barriers to prevent disposal of unauthorized waste? 62-701.710(4)(f)</td>
<td>✔</td>
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</tr>
<tr>
<td>4.24 If the facility is a Transfer Station and is claiming the financial assurance exemption, does it manage the waste on a first-in, first-out basis and store waste for no greater than 7 days? 62-701.710(4)(g)</td>
<td>✔</td>
<td></td>
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</tr>
<tr>
<td>4.25 Is stormwater effectively controlled? 62-701.710(4)(h)</td>
<td>✔</td>
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<tr>
<td>4.26 Are all specific conditions in the permit being followed? 62-701.520(1)</td>
<td>✔</td>
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</tbody>
</table>

### WASTE PROCESSING FACILITY CLOSURE

<table>
<thead>
<tr>
<th>Question</th>
<th>OK</th>
<th>Not OK</th>
<th>Unk</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.27 Has the solid waste residue been properly disposed of within 30 days after receiving the final solid waste shipment? 62-701.710(4)(c)</td>
<td>✔</td>
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<tr>
<td>4.28 Has closure been completed within 180 days after receiving the final solid waste shipment? 62-701.710(4)(d)</td>
<td>✔</td>
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</tbody>
</table>
VI. NARRATIVE
Explanation of all "NO" responses and other comments (continue on separate sheet if necessary)

The following were noted during the inspection:

- Tony gave me a copy of the permit and operation manual for the new transfer facility. He also provided the inspection log sheets, containment system, leak test form, latest classified fractured cup of materials for my review. He qualifiedacted.

- Tony then gave me a tour of the new transfer station building and leaded storage tank and alarms and the new community drop-off area.

- New transfer building:
  - Can operate at one operator at a time on the tipping floor.
  - One employee stationed in the truck holding area observing
  - Car folks from loading the trucks.

- The problems noted at the community drop-off area — All
  waste goods were stored on concrete and in the up-right position.

- Security guards were free of any litter. Bites to continuously
  picked up during the day.

- No objectionable odors were detected during the inspection.

- This is an outstanding transfer facility. We have Clifford
  does an outstanding job at the operation inspection.

Sincerely,

[Signature]

ENVIRONMENTAL SCIENTIST II
WASTE MANAGEMENT DIVISION
SOLID & HAZARDOUS WASTE SECTION