



## APPROVED TECHNICAL CRITERIA

Criteria	Application	Weighting Factors	
		Importance	Value
<b>1. CENTRAL LOCATION TO COLLECTION ROUTES</b>		Very Important	10
<p>Consideration: To maximize waste collection efficiency, transfer stations should be located centrally to waste collection routes. As a rule of thumb in urban and suburban areas, transfer stations should be no more than 12 miles away from the end of all collection routes. Beyond that distance, collection routes might need to be altered to enable refuse to be collected and deposited at the transfer station within one operating shift.</p> <p>Definition: Road mile distance measured from proposed site to waste generation centroid – 2025 Mean Center (weighted by population and employment).</p>	Site with shortest road mile distance from the centroid will be ranked highest. Distance will be measured using most direct route to proposed site. Route may be comprised of interstates, highways, major arterials, and street or roadway connectors.		
<b>2. ACCESS TO MAJOR TRANSPORTATION ROUTES</b>		Very Important	10
<p>Consideration: The transfer station should have direct and convenient access to truck routes, major arterials, and highways. Access to rail would also afford additional transfer and disposal flexibility in the future. It is preferable to avoid routing collection and transfer vehicle traffic through residential subdivision areas because traffic generated by transfer stations contributes to congestion; increases risk to pedestrians; increases air emissions, noise, and wear on roads; and might contribute to litter problems.</p> <p>Definition: Direct or convenient access to truck routes, major arterials, highways, and/or potential rail or intermodal access. Major truck routes, arterials, and highways will be defined as 15-501, NC 54, NC 86 (excluding NC 86 north of Hillsborough), US 70, I-40, or I-85.</p>	Site with most direct or convenient access to truck routes, major arterials, and highways will be ranked highest. Street or roadway connectors must accommodate through traffic with the following functional requirements: Parking – restricted (no parking on road); Major Intersections – traffic signals & cross street stops; Posted Speed Limit – 35-45 MPH; and Truck Traffic – unrestricted. Potential rail access will be used to further differentiate site rankings (i.e., ten additional points will be added to the “total score” of any site with rail access).		
<b>3. PARCEL SIZE AND AVAILABILITY</b>		Very Important	10
<p>Consideration: The area required for specific transfer stations varies significantly, depending on the volume of waste to be transferred, rates at which waste will be delivered, the functions to be carried out at the site, and the types of customers the facility is intended to serve. Locating a site of sufficient size is critical to operating efficiencies and minimizing impacts on the surrounding community.</p> <p>Definition: The minimum site size to be initially considered will be 25 acres as established under the Exclusionary Criteria. Co-location sites with other municipal facilities or operations of less than 25 acres will be considered provided that transportation access, buffers, and preliminary transfer station layout and roadway configurations demonstrate the adequacy of a smaller site.</p>	Single parcel, freely offered, sites will be ranked highest.		

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<b>4. SUFFICIENT SPACE FOR ON-SITE ROADWAYS, QUEUING, AND PARKING</b>		Important	5
<p><b>Consideration:</b> Transfer stations typically have on-site roadways to move vehicles around various parts of the transfer site. Waste collection trucks can be up to 40 feet long. Transfer trailers that move waste to a disposal facility are typically 50 to 70 feet long. These vehicles need wide roadways with gradual slopes and curves to maneuver efficiently and safely. Also, the site will need space for parking transfer vehicles and to allow incoming and outgoing traffic to form lines without backing up onto public roads.</p> <p><b>Definition:</b> On-site roadways and maneuvering areas will meet the following minimum requirements: down slope vehicle ramps must be less than 10%; upward sloped ramps must be less than 6%; roadway widths for collection vehicle and transfer vehicle traffic must be 24 feet; inbound and outbound collection vehicle queuing (in front of scale) must accommodate 4 vehicles with provisions for a double stack using bypass or outbound lanes (i.e., stage 8 inbound collection vehicles); queuing for 4 transfer vehicles including trailers positioned under load-out hoppers; staff parking for 5 vehicles plus 2 visitors; and trailer storage for 4 to 6 units.</p>	The site that lends itself to the most efficient design in terms of safety, roadway geometry, and layout will be ranked highest. Roadway widths, maximum slopes, number of lanes, turning radius, and traffic flow pattern will be considered.		
<b>5. TRUCK AND TRAFFIC COMPATIBILITY</b>		Very Important	10
<p><b>Consideration:</b> Transfer stations often receive surges of traffic when collection vehicles have finished their routes. Transfer station traffic varies locally but tends to peak twice a day. The first peak is often near the middle of the day or shift, and the second at the end of the day or shift. Therefore, the best sites for transfer stations are located away from areas that have midday traffic peaks and/or school bus, pedestrian, and bicycle traffic.</p> <p><b>Definition:</b> Compatibility of projected transfer station traffic volume and vehicle types with existing traffic mix and flow patterns in the immediate area of the site. Priority bicycle transportation routes (adopted April 1999) as shown in the 2030 Draft Orange County Comprehensive Plan, dated May 6, 2008, will also be included in the evaluation of traffic compatibility.</p>	Sites with street or roadway connector access that do not currently or are not projected in the future to exhibit significant midday traffic peaks or significant traffic compatibility conflicts with school bus, pedestrian, or bicycle traffic shall be ranked highest. Land use and development within one half mile radius of proposed site will be used to assess potential compatibility issues related to connector streets and roads.		
<b>6. ABILITY FOR EXPANSION</b>		Important	5
<p><b>Consideration:</b> When selecting a site, consider the potential for subsequent increase in the daily tonnage of waste that the facility will be required to manage, or added processing capabilities for recycling and diversion. It is often less expensive to expand an existing transfer station than to develop a new site due to the ability to use existing operations staff, utility connection, traffic control systems, office space, and buildings.</p> <p><b>Definition:</b> Adaptability of proposed transfer station site layout (transfer building and on-site roadways) to accommodate future expansion or changes in waste transfer and processing.</p>	A site that is the most adaptable with respect to expansion of the transfer building with concurrent use of buffers, roadways, parking areas, scale facilities, and other required site improvements will be ranked the highest.		

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<b>7. SPACE FOR RECYCLING, COMPOSTING, AND PUBLIC EDUCATION</b>			
<p><b>Consideration:</b> A transfer station could be sited in areas also conducive to recycling or composting activities. Many transfer stations are designed to enable residents and businesses to drop off recyclables and yard waste in addition to trash. Some transfer stations incorporate education centers or interpretive trails focusing on waste prevention. These types of facilities offer increased utility to the community.</p> <p><b>Definition:</b> Availability of undeveloped on-site area to accommodate future expansion or changes including additional waste handling, transfer, processing, and/or administrative support functions.</p>	A site with the largest available undeveloped footprint (acres) not including a minimum 100-foot buffer around the perimeter of the site and dedicated transfer station area (station, roadways, parking areas, scale facilities, and other required site improvements for transfer operations) will be ranked the highest.	Important	5
<b>8. BUFFER SPACE</b>			
<p><b>Consideration:</b> To mitigate the impact on the surrounding community, a transfer station should be located in an area that provides separation from sensitive adjoining land uses and/or residences. Buffers can be natural or constructed and can take many forms, including open spaces, fences, sound walls, trees, berms, and landscaping.</p> <p><b>Definition:</b> Presence of natural areas, trees, topographic relief, or other features that provide separation from adjoining land use or residences.</p>	A site that provides the most buffer width in terms of wooded area or other natural screening feature(s) (i.e., streams, hills, etc.) around the perimeter of the property will be ranked the highest.	Very Important	10
<b>9. GENTLY SLOPING TOPOGRAPHY</b>			
<p><b>Consideration:</b> Transfer stations often are multi-level buildings that need to have vehicle access at several levels. Completely flat sites need ramps or bridges constructed to allow vehicle access to upper levels (or areas excavated to allow access to lower levels). Sites with moderately sloping terrain can use topography to their advantage, allowing access to the upper levels from the higher parts of the natural terrain and access to lower levels from the lower parts. Sites with steep slopes might require extra costs associated with earthmoving and retaining walls.</p> <p><b>Definition:</b> Moderately sloping terrain for access to the upper level of the transfer station (tipping floor) from higher natural elevations and access to lower level of the transfer station (transfer drive-through) from lower natural elevations.</p>	A site that has a moderate naturally sloping topography in the range of 4% to 6% (from the back of transfer building) will be ranked the highest.	Important	5

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<b>10. ACCESS TO UTILITIES</b>		Important	5
<p>Consideration: Transfer stations generally require electricity to operate equipment, such as ventilation fans; lighting; water for facility cleaning, restrooms, and drinking; and sanitary sewer systems for wastewater disposal. Some transfer stations use wells for water supply, and some, especially in more rural settings, use septic systems or truck their wastewater for off-site treatment.</p> <p>Definition: Availability of electrical, water, and sewer service at the site.</p>	A site that has electrical, water and sewer service of sufficient capacity for transfer operations within the immediate vicinity (1000 feet of the site) will be ranked the highest. Five additional points will be added to the "total score" of any site with water and sewer service (e.g., within 1000 feet of the site).		
<b>11. ZONING DESIGNATIONS AND REQUIREMENTS</b>		Important	5
<p>Consideration: The County has adopted a Zoning Ordinance in order to protect and promote the health, safety, and general welfare of the County and its residents. The Zoning Ordinance regulates and restricts uses of land within the County, including such things as the height, size of buildings, and other structures; the percentage of a lot that may be occupied; the size of yards, courts, and other open spaces; the density of populations; and the location of Governmental Facilities such as a County-owned Transfer Station. If the selected transfer station site is not located within an area that is within the County's exclusive planning jurisdiction then other units of government may be involved in the permitting and approval of the proposed transfer station site.</p> <p>Definition: A Transfer station can be located in all Zoning Districts in the exclusive planning jurisdiction of the County where Governmental Facilities and Office Buildings are permitted pursuant to Article 4.3 Permitted Use Table (Line P24) of the County's Zoning Ordinance, including those areas of the Rural Buffer not located in protected watershed critical areas and including anywhere in any of the EDDs where Governmental Facilities and Office Buildings are permitted pursuant to the Permitted Use Tables contained within the EDD Manuals, subject to all Site Plan requirements contained within Article 14 of the Zoning Ordinance, EDD Manual requirements, permits and approval processes as applicable.</p>	Sites will be ranked in accordance with the following hierarchy: A site that is located within the Orange County Planning jurisdiction, excluding the Rural Buffer portion of the Joint Planning Area and excluding the Transition area, will be ranked the highest followed respectively by sites located in the Rural Buffer, Transition, ETJ, with those sites located within a municipality ranked the lowest.		
<b>12. CARBON FOOTPRINT</b>		Important	5
<p>Consideration: Refuse trucks provide an invaluable service, improving the quality of life as they haul away thousands of pounds of garbage every day. However, the refuse trucks also contribute to air and noise pollution. Nearly 99 percent of these vehicles run on diesel fuel, and the emissions from these diesel engines contain particulate matter, hydrocarbons, carbon monoxide, carbon dioxide, and nitrogen oxides.</p> <p>Definition: Impact of waste hauling activities on the environment measured in terms of the greenhouse gas (measured in units of carbon dioxide) emissions.</p>	The site with the lowest environmental impact will be ranked the highest. Environmental impact will be assessed on the basis of carbon dioxide emissions (megagrams per year) from collection vehicles for the increased travel distance from the centroid of waste generation to the proposed transfer station site.		

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<b>13. PROTECTED WATERSHED OVERLAY DISTRICT</b>			
<p>Consideration: Projection of receiving waters through the reduction and control of nonpoint source inputs to achieve water quality protection goals.</p> <p>Definition: A protected area is defined as land within five miles and draining to the normal pool elevation of water supplies/reservoirs, or within ten miles upstream and draining to a river intake. Protected watershed overlay districts are currently defined and mapped by Orange County.</p>	Sites located totally outside of the protected watershed overlay district area currently defined for Orange County will be ranked highest. Protected areas will be determined using GIS watershed mapping provided by the Orange County Planning and Inspections Department.	Important	5