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# City of Minneapolis South Transfer Station Options Analysis

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City of Minneapolis Department of Public Works  
Minneapolis, Minnesota

April 2004

City of Minneapolis  
South Transfer Station Options Analysis

Scope ID: 04M037

Prepared for  
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# City of Minneapolis

## South Transfer Station Options Analysis

### Executive Summary

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This report provides a preliminary review of solid waste management options available to the city of Minneapolis (City) when the South Transfer Station is no longer available for use for solid waste program services. The City of Minneapolis Solid Waste and Recycling Division (Division) currently utilizes the South Transfer Station to serve approximately 10 percent of the residents via the City’s Voucher Program. In addition, the South Transfer Station is permitted to handle 350 tons per day (tpd) of municipal solid waste (MSW). This permitted capacity provides strategic value to the City for handling short-term emergencies and long-term flexibility in access to disposal services located outside the City.

The options covered include the following:

- ◆ Discontinue the Voucher Program
- ◆ Replace only the Voucher Program with a City site or contract site(s)
- ◆ Replace the Voucher Program with future replacement potential for 350 tpd transfer station
- ◆ Replace the Voucher Program and the 350 tpd transfer station at the same time
- ◆ Preliminary consideration to consolidate the existing Pacific facility operation with the existing Voucher Program and an MSW transfer station.

Key cost considerations of the options include:

- ◆ No options provide savings over current program costs
- ◆ Costs of the options shown below include capital and operating costs for a City facility. The costs do not include site purchase.

Option Description	Capital Improvement Cost	Annual Operating Cost <sup>1</sup>
Replace Voucher Program	\$2,203,500	\$1,170,000
Replace Voucher Program Plus Future Transfer Station Expansion	\$4,088,500 <sup>2</sup>	\$1,540,000
Replace Voucher Program Plus Transfer Station <sup>3</sup>	\$3,578,500	\$1,540,000

<sup>1</sup> Includes facility depreciation costs.

<sup>2</sup> Total cost for initial Voucher Program facility and future Transfer Station Facility.

<sup>3</sup> Voucher Program and Transfer Station constructed at the same time as one facility.

Key policy considerations for the options include:

- ◆ Discontinuing the Voucher Program will impact 10 percent of the City households annually with less convenient and more costly options for the same services.
- ◆ Discontinuing the Voucher Program could result in increased illegal dumping in the City, with associated increased costs for clean-up.
- ◆ Lost convenience and increased illegal dumping will likely lead to increased complaints from businesses, citizens, and neighborhoods.
- ◆ Not replacing the permitted transfer station capacity limits the City's strategic ability and flexibility to address the following issues:
  - ▶ Timely and cost-effective recovery from various natural disasters (i.e., flooding, wind storms, etc.).
  - ▶ Timely and cost-effective alternative disposal service during temporary, unpredictable inabilities to deliver to HERC (increased haul time, vehicle wear and tear, personnel costs, etc.).
  - ▶ Lost future flexibility for opportunities for alternative disposal locations outside of the City.
- ◆ The permitting process for each of the options is anticipated to include protracted and extensive involvement of citizens, neighborhoods, and other agencies.

# City of Minneapolis

## South Transfer Station Options Analysis

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## 1. Introduction

This report provides a preliminary review of solid waste management options available to the city of Minneapolis (City) when the South Transfer Station is no longer available for use for solid waste program services. The City of Minneapolis Solid Waste and Recycling Division (Division) currently utilizes the South Transfer Station to serve residents using the City's Voucher Program. In addition, the South Transfer Station is permitted to handle 350 tons per day (tpd) of municipal solid waste (MSW). This permitted capacity provides strategic value to the City for handling short-term emergencies and long-term flexibility in access to disposal services located outside the City.

Foth & Van Dyke met with representatives of the City Public Works Department (Department) on April 7, 2004, to discuss the status of the South Transfer Station and the need to begin analyzing the options for replacing the services and strategic benefits. An outline of the options was developed which led to the development of this preliminary review document.

This report provides a brief description of the South Transfer Station site and the City's Voucher Program. The options reviewed include:

- ◆ Discontinuing the Voucher Program, do not replace the South Transfer Station, causing residents to find alternative disposal methods,
- ◆ Replacing the Voucher Program with either a City owned voucher only transfer station or contract Voucher Program at a private transfer station,
- ◆ Replacing the Voucher Program and the 350 tpd transfer station capacity, and
- ◆ Preliminary consideration of replacing the Voucher Program, developing a 500 tpd transfer station, and including the fleet storage and maintenance activities that are currently at the Division's Pacific Street location.

The report is intended to provide information for consideration during Council discussions. The report includes preliminary data and highlights potential areas of concern.

Based upon further Council direction, a more in depth analysis can be developed for the options that will best meet the needs of the residents and businesses in the City.

## 2. Description of Current Site

The South Transfer Station is located at 2850 20<sup>th</sup> Avenue South, just northwest of Hiawatha Avenue and Lake Street. Currently, this is the location for the City voucher and citizen drop-off program and for commercial “cash” customer disposal in the City.

### 2.1 History

The facility, which used to be referred to as the Southside Destructor, was constructed in 1939 as a waste incinerator and burned garbage until the late 1960s when the plant was shut down. Waste Management, Inc. has operated the South Transfer Station since 1999. Several years ago, the City considered (but ultimately did not pursue) leasing the facility to private companies to utilize the unused transfer capabilities and operate the site as a fully functioning transfer station that would provide significant revenue to the City.

The South Transfer Station was originally permitted by the Minnesota Pollution Control Agency (MPCA) to the operator, Phoenix Industries, Inc. on August 10, 1971. In 1982, the city of Minneapolis was added to the permit as owner of the facility, and Phoenix Industries continued as operator. The City has always been the owner. The City submitted a permit reissuance application in June 1993, with an addendum in July 1993. In the permit reissuance, the operator changed to Pine Bend Landfill, Incorporated, Transfer Division (PBLI). PBLI, a subsidiary of Browning-Ferris Industries (BFI), acquired Phoenix Industries in August 1980. The facility currently accepts MSW from residential and commercial establishments. Its permitted capacity is 350 tons of waste per day, with a temporary storage capacity of 125 tons in the tipping floor area. The facility can be used by contract haulers and private citizens. The April 1999 permit reissuance document changed the operator from PBLI to Waste Management.

### 2.2 Existing Structures, Facilities

The parcel size of the site is approximately 2.5 acres. The facility, including on-site access roads and parking areas, is surfaced with an all-weather asphalt surface in order to minimize dust concerns and ensure access. Wheel curbs are present along most asphalt boundaries. There are no elevated loading or unloading areas where wheel curbs are necessary, but not present.

The facility consists of a 16,000 square foot (145 feet by 110 feet) brick building with a sealed concrete base floor. The building is accessible through three overhead doors.

The building’s office space and restrooms are heated. The open space used for the tipping floor is not heated.

Lighting within the working areas of the transfer station is provided by high bay lighting fixtures. Exterior lighting is for security purposes. Such lighting is located over key entrances and exits and the parking area.

The building is ventilated by opening the overhead doors.

Two scales are used. Loaded incoming trucks are weighed at the scale in the southwest corner of the building just inside the overhead door. Vehicles pulling trailers are weighed on the outside/outbound scale, to the east of the building.

## 2.3 Usage and Waste Types

Table 2-1 lists the historical tonnages and material types collected at the transfer station.

Table 2-1 City of Minneapolis South Transfer Station Number of Vouchers Used and Tonnages Received

	Year			
	2000	2001	2002 <sup>1</sup>	2003
No. of non-tire vouchers	14,586	18,770	20,264	20,491
No. of tire vouchers	1,365	1,449	1,334	1,192
No. of total vouchers	15,951	20,219	21,598	21,683
Concrete (tons)	46	232	132	139
Metal items (tons)	546	1,004	940	908
MSW (tons)	1,803	2,473	1,905	2,074
Tires (number)	26,822	27,672	23,233	13,033
Tires (tons)	284 <sup>2</sup>	293 <sup>2</sup>	246 <sup>2</sup>	138 <sup>3</sup>
Other C&D debris (tons)	5,940	8,398	9,723	9,602
<b>Total Tons</b>	<b>8,619</b>	<b>12,400</b>	<b>12,946</b>	<b>12,861</b>

<sup>1</sup> A change in policy in 2002 reduced the abuse of the voucher program by out-of-City individuals, decreasing tonnage but increasing accessibility and cost-effectiveness for customers.

<sup>2</sup> Pacific facility and South Transfer Station.

<sup>3</sup> South Transfer Station only.

The number of vouchers used has generally been increasing — particularly between 2000 and 2001. The largest quantity material type is Construction and Demolition debris (C&D). Quantities of C&D have exceeded 9,600 tons the last two years, with the largest increase likely associated with the voucher increase from 2000 to 2001. Total tons of all materials are approaching 13,000 tons per year.

## 2.4 Operations

### 2.4.1 Contractor

Waste Management has operated the South Transfer Station since 1999.

### 2.4.2 Hours

The South Transfer Station is open to the public (except for holidays) Monday through Friday from 12:30 p.m. to 7:30 p.m. and Saturdays from 8:30 a.m. to 3:30 p.m.

The MPCA permit allows the hours of operation to be within operating hours allowed by the Minneapolis noise ordinance, which allows operation between 6:00 a.m. and 10:00 p.m.

### **2.4.3 Fees**

Unless the customer is a Division customer and obtains a voucher in advance, fees are as follows:

- ◆ \$88.92 per ton for all materials except tires. The minimum charge is \$35.57 for amounts of 1 to 800 pounds.
- ◆ For tires, the fee is \$2.00 per tire.
- ◆ \$20.00 for appliances containing coolant.

### **2.4.4 Costs**

Table 2-2 shows the 2003 costs of operating the Voucher Program at the South Transfer Station. The data was compiled from the Division's Level 2 Org Expense Status year-end report, monthly bills from WMI, Hennepin County Municipal Grant Application and internal data tracking reports. The 2003 total cost for operation of the transfer station, all disposal costs, all applicable taxes, and other operating expenses was \$1,077,531 less cash customers \$113,944, which totals \$963,587.

Table 2-2 City of Minneapolis 2003 South Transfer Station Costs of Operating the Voucher Program (2003)

	Cost (\$)
Overheads PW and GF	63,136
Rent	13,282
Repair and maintenance	31,910
Utilities – all	36,186
Voucher distribution system	42,016
Operating costs – other	5,743
Capital	10,353
Tire disposal charges	8,255
Tire hauling and cage rental <sup>1</sup>	8,178
C&D transport and disposal <sup>1</sup>	527,340
Transport MSW to HERC <sup>1</sup>	17,115
WMI contract station operation <sup>1</sup>	169,145
HERC disposal charges	73,712
Other charges – appliances and mileage during HERC outage <sup>1</sup>	28,098
Subtotal	1,034,469
Division hauling of metals from STS	60,600
Revenue from scrap metal (\$19.31/ton x 908 tons)	(17,538)
Cash customers	(113,944)
	<u>\$963,587</u>

<sup>1</sup> Payments to WMI.

## 2.5 Disaster Recovery Availability

While the above represents recent historical usage at the South Transfer Station, it is important to note that the site remains available to aid the City during a disaster recovery emergency (natural or man-made). The South Transfer Station permitted operating hours allow for use of the site for disaster debris receipt and transfer during hours outside of the Voucher Program. This is described further in Section 4.3.

### 3. Option: Get Out of Voucher Program

This option would have the City discontinue the Voucher Program after closing the South Transfer Station.

#### 3.1 Description of Voucher Program

The Division Voucher Program for residents of Minneapolis provides a means for disposal of MSW including appliances and other metal objects, C&D wastes and tires. The Division contracted with Waste Management Minnesota to operate the South Transfer Station for this program. The access to the facility is managed by issuance of vouchers. Households within the city with solid waste services provided by the Division, may request up to six vouchers a year for MSW or C&D and two for tires. There is a limit on the tonnage per voucher of 2,000 pounds or eight tires. Quantities beyond those limits are charged on a per-ton or per-tire basis. These vouchers are at no additional cost beyond their monthly garbage bill to those customers. Other residents may request vouchers on a cash basis and pay for access on a per-ton basis as described in Section 2.4.3. When a voucher is requested, the Division staff reviews the individual usage history for prior use and/or abuse before granting the voucher. The vouchers can be mailed to or picked up by the customer, or printed directly at the transfer station. Disposal at the transfer station without a voucher requires payment in cash at the time of disposal, no exceptions.

##### 3.1.1 Distribution

Currently the Division maintains control over who gets how many vouchers. This is possible with the Solid Waste Information System (SWIS). The software tracks historical requests and utilization of issued vouchers. It also performs the billing if the customer exceeds the quantity limits for each voucher. Once a customer is approved to receive a voucher, the SWIS prints out the voucher directly at the transfer station unless the customer wishes to have it mailed or personally pick it up.

Table 3-1 shows the voucher utilization in 2003. Over 28,000 clean-up vouchers were requested and 20,491 were used by 11,200 households in 2003. This demonstrates that approximately 10 percent of the Division’s customer base use vouchers during a given year.

Table 3-1 City of Minneapolis Voucher Utilization in 2003

	Households Requesting Clean-up Vouchers	Number of Clean-up Vouchers Issued	Number of Tire Vouchers Issued
Single-family	8,925	21,781	1,308
Multi-units	2,279	7,090	465
Total issued	11,204	28,871	1,773
Total vouchers used		20,491	1,192

### 3.1.2 Voucher Distribution Costs

The printing of the vouchers at the transfer station was developed primarily as a customer convenience. There are personnel costs, IT and charges for communications with the transfer station that require a T-1 line, a dedicated PC, and printer. The costs for this service are in Table 3-2. The costs of personnel time spent dealing with the customers, and the time spent by the accounting staff managing the paying of the transfer station bills and reporting of the activities are estimated to equal one-half of a full-time employee valued at \$55,000 a year (wages, benefits), for a total of \$27,500.

Table 3-2 City of Minneapolis Annual Voucher Distribution Costs

	Cost
Phone and accounting staff <sup>1</sup>	\$27,500
T-1 communication phone line at \$543 per month	6,516
IT charge for work station	5,000
Cost for printers and PC maintenance	3,000
Total	\$42,016

<sup>1</sup> Total of 0.5 full-time employee equivalent.

### 3.2 Resident Options in an Open System

Table 3-3 shows some of the options available for disposal in an open system (i.e., assuming the City discontinues the Voucher Program). There is no one place that currently provides for the drop-off of all the materials currently allowed at the Division's transfer station.

Table 3-3 City of Minneapolis Options Available for Disposal in an Open System

	MSW	C&D	Appliances	Scrap Metal	Tires	TVs
Hennepin County - Brooklyn Park	\$15-\$42/vehicle; trailers \$15/cy	NA	\$15	NC	\$3	NC
Hennepin County - Bloomington	NA	NA	\$15	NC	\$3	NC
Burnsville Landfill	\$69.78/ton \$50 min.	\$37.83/ton \$50 min.	\$25	NA	\$6-30	\$17
Malcolm NRG	NA	\$41/ton \$20 min.	\$20-\$30	NA	\$5	NA

NA = not allowed

NC = no charge

### 3.3 Cost Projections in an Open System

Customers using an open system for the materials currently dumped at the Division's transfer station may be required to travel further to dispose of their material. The customer's potential additional transportation costs have not been determined. To estimate the disposal charges for the different materials requires that some assumptions be made. Discussions with the staff at the transfer station and Division staff resulted in the following assumptions.

#### C&D material

- ◆ 75% of all voucher users brought in C&D material. 20,491 total cleanup vouchers times 0.75 = 15,368
- ◆ 1/4 of the 15,368 (3,842) had 2,000 pounds
- ◆ 1/4 of the 15,368 (3,842) had 1,000 pounds
- ◆ 1/2 of the 15,368 (7,684) had less than 1,000 pounds

Therefore, using the best priced outlet for the material (NRG on Malcom Ave. SE), one half of the voucher users (15,368 times 0.50 = 7,684) would be charged the minimum of \$20. One quarter would be charged \$20.50. One quarter, or 2,561, would be charged at \$41 a ton. Table 3-4 shows the calculations and total cost.

Table 3-4 City of Minneapolis C&D Calculations and Total Cost

No. of Vouchers with C&D	Weight in Pounds	Charge Per Load	Total
3,842	2,000	\$41.00	\$157,522
3,842	1,000	\$20.50	\$78,761
7,684	Less than 1,000	\$20.00	\$153,680
			\$389,963

#### Appliances:

- ◆ It has been determined that 34 percent of the metal tonnage was appliances. Thirty-four percent of 908 is 308.72. Using the assumption that the average appliance weighs 100 pounds, there are 6,174 needing disposal. Again, using the lowest cost outlet (either Hennepin County site), the total cost would be 6,174 times \$15, which equals \$92,610.

#### TVs:

- ◆ It has been determined that 8 percent of the metal tonnage was TVs. Hennepin County currently accepts TVs for no fee at both their sites.

MSW:

- ◆ 75% of all voucher users brought in MSW (20,491 total clean-up vouchers times 0.75 = 15,368).
- ◆ Total MSW was 2,067 tons, or 4,134,000 pounds, averaging 269 pounds per voucher.
- ◆ 1/2 of the 15,638 (7,684) brought in a pickup load.
- ◆ 1/4 of the 15,638 (3,842) brought in a one-half pickup load.
- ◆ 1/4 of the 15,638 (3,842) brought in car/station wagon load.

Table 3-5 shows the calculations and total cost.

Table 3-5 City of Minneapolis MSW Calculations and Total Cost

No. of Vouchers with MSW	Load Size	Charge Per Load	Total
7,684	Pickup	\$42	\$322,728
3,842	½ Pickup	\$25	96,050
3,842	Car	\$15	57,630
			<hr/> \$476,408

Tires:

- ◆ The Division estimates the average tire weighs 21 pounds. The tonnage brought to the transfer station in 2003 was 138 tons, or 276,000 pounds. This 276,000 pounds divided by 21 equals 13,143 tires. At the lowest cost outlet (either Hennepin County site) at \$3 each, this totals \$39,426 (3 x 13,143 = \$39,426).

Table 3-6 summarizes the total costs for an open system using the above assumptions. There are no costs added for the inconvenience resulting from residents being required to use multiple sites.

Due to the complex methods of various taxation on C&D materials, no calculations were made to determine the full costs with taxes included.

Table 3-6 City of Minneapolis Residents'/Customers' Total Costs for an Open System

Material	Cost (\$)
C&D	\$389,963
Appliances	92,612 <sup>1</sup>
TVs	0
MSW	476,408 <sup>1</sup>
Tires	39,426 <sup>1</sup>
<b>Total</b>	<b>\$998,409</b>

<sup>1</sup> Includes all applicable taxes.

### 3.4 Potential Illegal Dumping – Actual City Experience and Potential Changes

Until a number of years ago, the Division provided free clean up of illegally dumped materials—whatever the material, wherever the material was located. Currently Division Foremen investigate each report of illegal dumping. If it can be determined where the material came from, the Division pursues billing for the removal. If it cannot be determined where the material came from, the Foreman arranges for removal utilizing the Dirty Collection Point (DCP) crews. A record of the activity is maintained in the SWIS for future reference.

The Division provides ongoing DCP clean-up services as warranted over 3,600 times a year. Dedicated crews and collection vehicles are used. The number of illegally dumped clean-ups is estimated by the Division to be 3 percent of the number of DCP clean-ups. In 2003, the Division performed 3,635 billable clean-ups. It is therefore estimated that approximately 110 in addition to the 3,635 were from illegally dumped materials. In 2003, \$224,324 was collected for all DCP cleanups. If the costs of clean-ups were all alike, the costs for an illegal clean-up would be approximately \$60 each. Sixty dollars times 110 clean-ups totals \$6,600.

The most common illegally dumped materials are construction and demolition debris followed by appliances. These materials are difficult at best to identify their origin. Since the Division only takes very small amounts of C&D material with its weekly solid waste services, it can be expected that the majority of a future increase in illegal dumping will come from this material type. Appliances will continue to be illegally dumped, but due to the City's collection program for appliances it will be difficult to determine if they were illegally dumped or merely set out by the residents.

Even though the Division offers tire vouchers to its customers, tires are still commonly found abandoned throughout the City. Staff resources allowing, the Division will periodically conduct sweeps to remove those abandoned tires. Without the Voucher Program for tires (over 13,000 tires dropped off with vouchers or at \$2 per tire), the number of illegally dumped tires is expected to increase dramatically. Currently the Division Field Foremen will pick up any abandoned tires they encounter during their daily field activities. Because they won't necessarily drive every alley on a routine basis, not all tires are removed. Some periodic collection method could be implemented (e.g., recycling crews could pick up four tires a day if encountered and hang them on their trailers until they

return to the shop where a tire cage is located). This systematic method could eventually reduce the time the tires remain abandoned in the alleys to a shorter interval.

The collection services provided to its customers allows for unlimited amounts of MSW weekly, two appliances per recycling collection day and small amounts of C&D (small amounts defined as a bundle of wood that can easily be lifted by the collector). Rolled and tied carpeting and burnable furniture is also collected weekly.

As noted in Section 3.1, the number of households directly affected by discontinuing the voucher system is likely to be about 10 percent of all households in the Division's customer base in a given year. Virtually all of the MSW that is currently dumped at the transfer station could be collected at the customer's collection point. This would only require that they properly prepare it for collection. Those with huge amounts can contract with the Division for special collection. This special collection is billed at the hourly rate charges for DCPs. As for the metal and appliances, again the customers are offered every other week collection of these items on their recycling day, but with a limit of two per collection day. For a household to dispose of all its major appliances, it requires a little planning ahead. In four weeks and a day one household can have six items removed. C&D materials generated during a small household project (e.g., replacing a door or window, patching a large hole in a wall, or replacing a vanity or bathtub) can be set out for MSW collection if properly prepared (bundled, boxed or bagged). For projects of larger proportion, typically done by a contractor, the resident could self-haul the materials or have the removal done by the contractor. Some cities have materials recycling/disposal requirements built into their permitting process for remodeling/construction projects. This promotes the customer to find other uses (i.e., donation or re-use) for the material rather than dumping it on a vacant lot.

Assuming that all the MSW currently being disposed of at the transfer station (approximately 2,000 tons per year) finds its way to the resident's collection point, compared to the current MSW stream of about 115,500 tons per year, the increase will amount to less than 2 percent. For example, currently the weekly generation weights range from 30 to 60 pounds per household (per cart). Those weights would increase to 31 to 62 pounds per week. The effect would be negligible and for the most part go relatively unnoticed by the MSW collection crews.

Appliance and Problem Materials collection efforts would feel the greatest impact of closure. Again, assuming all the materials once dumped at the transfer station find their way to the collection points, the approximate 1,000 tons per year added to the Problem Materials collection crews totals of approximately 4,000 tons a year would represent a 25 percent increase. The number of staff and vehicles, including O&M, would need to be increased by that amount. The average of four collection full-time employees would increase to five, an increase of one full-time employee. The processing of the appliances from the transfer station is currently being handled by City staff and would not need to be increased. The current fleet of collection vehicles is sufficient to accommodate the increase.

Experience in the solid waste management business indicates there would likely be some increase in illegal dumping due to the closure of the South Transfer Station without replacing the facility in the city of Minneapolis. As noted, the most common materials dumped illegally in the City currently are C&D debris and appliances. C&D is also the most common material type

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currently brought to the South Transfer Station. For preliminary planning discussions, if a range of 5 to 10 percent of the South Transfer Station customers chose to illegally dump their wastes, the City would see over 1,000 to 2,000 more illegal dumping occasions per year. This would cost the Division between \$60,000 and \$120,000 to clean up. This would be up to a 2,000 percent increase in costs.

The illegal dumping problem may start out high and then improve over time as residents adapt to a different system. Nevertheless, there will likely be increased illegal dumping.

Considering that a significant part of the mission of the Division and the City overall is to provide a clean and livable city, this may be a risk the City is not willing to undertake. If so, discontinuing the Voucher Program when closing the South Transfer Station would not be a viable option.

### 3.5 Public Notification

#### 3.5.1 Closure Plan Requirements

The MPCA permit has a closure plan document for the South Transfer Station developed for use in establishing the necessary steps in permanently closing the facility and providing proper post-closure maintenance of the facility, as required by the MPCA.

At the time of final closure, a list of contacts for the facility must be submitted to the MPCA. The contacts list must include names, addresses, and telephone numbers of individuals who are knowledgeable about the facility, design, construction, operation, maintenance, closure, and potential future uses of the facility.

The MPCA needs to be notified in writing at least 90 days prior to initiating closure activities at the facility. The planned closure date must be included in the notification. Regular users of the transfer station must also be notified in writing of the planned closure. A notice must be posted at the entrance of the facility indicating the date of closure and provide a listing of other facilities accepting similar materials at least 60 days before closure. A notice must also be published in the local newspaper 30 days prior to closing.

Final closure activities must begin within 30 days of receiving the last shipment of waste. Following completion of final closure activities, a date and time for a final closure inspection by the City must be established. The MPCA must also be notified of the date and time of this final closure inspection. The purpose of this inspection is to verify complete physical closure of the transfer station.

The facility consists of a 16,000 square foot brick building and surrounding traffic areas. MSW, C&D debris, and other non-MSW waste is temporarily held on site prior to transportation to a processing or disposal facility.

At the time of facility closure, the owner/operator of the transfer station must:

- ◆ Remove and transport all remaining C&D debris to an appropriate recycling or disposal facility.
- ◆ Remove and transport all remaining non-MSW wastes, including tires, to an appropriate recycling facility.
- ◆ Remove and transport all remaining waste or debris to an appropriate disposal facility.
- ◆ Remove equipment from the site.
- ◆ Provide for the continued security and maintenance of the facility (or, as appropriate, transfer responsibility for the site to new property owners or leasers).

### **3.5.2 Additional Notification**

In addition to informing the MPCA of the closure of the South Transfer Station, the City would also have to notify Hennepin County Environmental Services and the appropriate City departments.

In addition to regulatory notification, the City will need to better inform the general public of the closure of the transfer station. Updates can be posted in City newsletters, local newspapers, web site, and a flyer can be added to the utility bill. A sign should also be posted on the front gate. The neighborhood committee should also be contacted as well as the City Council members. Information provided should include whether or not their vouchers are still valid and locations where the residents can now bring their waste.

### 3.6 Advantages/Disadvantages

#### **Get Out of Voucher Program**

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Advantages	Disadvantages
<ul style="list-style-type: none"><li>◆ Reduced Division expenditures.</li><li>◆ Fewer phone calls for vouchers.</li><li>◆ Less accounting effort, bill paying, and recordkeeping.</li></ul>	<ul style="list-style-type: none"><li>◆ Lost convenience for residents.</li><li>◆ Additional travel and time costs for residents.</li><li>◆ Increase in illegal dumping.</li><li>◆ Park Board complaints of being dumped on.</li><li>◆ Complaints to elected officials from businesses, citizens, and neighborhoods.</li><li>◆ Reduced livability.</li><li>◆ Increased pressure on alternative disposal facilities.</li><li>◆ Loss of transfer capacity associated with current permit.</li><li>◆ Lost capability to address disaster recovery.</li></ul>

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## 4. Option: Replace Voucher Program

This option includes replacing the Voucher Program with a transfer station at a site owned by the City.

### 4.1 City Site/City Operated

#### 4.1.1 Site Selection Criteria

Site selection criteria for the proposed transfer station can be separated into four interrelated areas as follows:

- ◆ Feasibility for development (current and future)
- ◆ Proximity to material generation and disposal
- ◆ Environmental factors, including aesthetics
- ◆ Cost factors

It is not likely that a site will successfully meet all selection criteria. Therefore, specific site selection will involve balancing priorities inherent in each set of criteria.

The following specific criteria should be considered during site selection.

#### Feasibility Criteria:

- ◆ **Site size and efficiency:** The site must be sized to accommodate the building, ease of vehicular traffic/access and any other ancillary site operations.
- ◆ **Topography/geology/hydrology.** Topographic relief will allow ease of development for constructing the anticipated “step” between tipping and loading (see 4.1.3, Conceptual Design). Features such as soil type, floodplains, wetlands, drainage patterns, and the presence of bodies of water can impact the suitability for use.
- ◆ **Ownership.** The impact of ownership on the selection will need to be considered (e.g., a site already owned by the City may increase the opportunity for development). If an identified suitable site is not owned by the City, can it be purchased or can a long-term contract for use be negotiated?
- ◆ **Access.** Roads to and from the site must be adequate to handle anticipated vehicular traffic year-round. Factors such as proximity to major arteries and necessary road improvements will need to be considered. Proximity to rail lines may allow flexibility of transfer of materials to disposal facilities.
- ◆ **Utilities.** The facility will need electricity, natural gas, water, sanitary sewers and storm water, and telephone. Availability of these utilities in close proximity will limit the cost to make necessary connections.

- ♦ **Zoning.** A site in an area not zoned for transfer station use will likely face delays and opposition from local residents and local officials to a zoning change request. Care should be given to specific zoning ordinances specifying setbacks, building height, required parking, and building materials.

### **Proximity Criteria:**

- ♦ **Promity to waste generation.** Proper selection of a site location will increase the efficiency of handling material from the generating sites to the transfer station.
- ♦ **Proximity to other City facilities.** Factors such as joint use of labor and/or equipment can serve to reduce the operating cost for the transfer station and increase the flexibility of prioritizing critical operational needs.
- ♦ **Proximity to other land uses.** Siting a facility at a distance from residential areas will reduce disruption of the residences, and therefore should reduce residents' objections to the facility. Attention needs to be paid to proximity to incompatible uses.

### **Environmental Criteria:**

- ♦ **Environmental quality.** Impacts on air quality, water quality, endangered plants and animals or other issues will need to be addressed.
- ♦ **Historical/archeological significance.** If these issues exist, the site will likely be eliminated from consideration.
- ♦ **Past land use.** An environmental assessment of a proposed site should be conducted if problems are suspected (e.g., underground storage tanks, buried rubble, etc.). Alternatively, selecting a brownfield site could beneficially serve two purposes—site remediation and the solid waste facility.
- ♦ **Impact on surrounding land values.** It may be difficult to predict the impact the transfer station will have on surrounding land values, but this factor can be a significant concern to surrounding land owners, whether a legitimate concern or not.

### **Cost Criteria:**

- ♦ **Land acquisition.** The benefits of purchasing a new site should be weighed against the savings associated with using property already owned by the City.
- ♦ **Site preparation.** Poor site conditions (e.g., floodplain, flat site, extremely sloping site, poor geological conditions, etc.) can increase development costs and should be weighed against other factors.
- ♦ **Utility connection and construction.** If utilities are not available in close proximity, connection costs can be significant. It may be possible to negotiate with a given utility for a reduced hookup rate.

- ◆ **Road upgrades.** If access roads are not currently constructed to meet the needs of the increased traffic resulting from the transfer station, upgrades may be necessary.
- ◆ **Zoning ordinances.** Exterior building material types and site landscaping may be dictated by the zoning ordinances, reducing flexibility of selection and possibly increasing the construction cost for the building and site.

#### 4.1.2 Site Needs

The following general site needs can be utilized to start the process of selecting a specific transfer station site for this option.

- ◆ **Location.** Near the centroid of collected waste (center of the area from which the waste is generated); zoned for industrial use; close proximity to major roads, avoid proximity to residential neighborhoods.
- ◆ **Size and topography.** The site should be a minimum of 4 to 5 acres in size and should have sufficient topographic relief to accommodate a 14-foot vertical drop between the tipping and loading slabs.
- ◆ **Utilities.** Electricity, natural gas, water, sanitary sewer, and telephone service should be available at the site.

#### 4.1.3 Conceptual Design

The conceptual design of the facility and site to address the Replace Voucher Program option is based on a number of criteria and assumptions summarized as follows. Note that consideration of a “peak day” is critical, since a wide variance in daily volumes will exist.

- ◆ Materials
  - ▶ MSW: 2,100 tons per year; 12 tons per day peak.
  - ▶ C&D: 9,600 tons per year; 55 tons per day peak.
  - ▶ Appliances: 380 tons per year; 2 tons per day peak.
  - ▶ Metal: 530 tons per year; 3 tons per day peak.
  - ▶ Concrete: 140 tons per year; 10 tons per day peak.
  - ▶ Tires: 21,047 tires (221 tons) per year; 100 tires (1.25 tons) per day peak.
  - ▶ In addition to the peak day factors shown, a 10 percent growth factor was applied to account for potential future increases in material quantities over the life of the facility.
- ◆ Vehicles/Deliveries:
  - ▶ All material delivered using non-commercial vehicles including cars, pick-up trucks, vans, SUVs and like vehicles hauling a small trailer.
  - ▶ An inbound vehicle scale and an outbound vehicle scale would be used to track weights of delivered material. The outbound scale would be unattended, but would be connected to the scale system electronically.

- ▶ A drive-through lane would be provided inside the building so that any vehicle backing would be accomplished in an area unobstructed by walls, etc.
  - ▶ Queing of vehicles in front of the in-bound scale would accommodate approximately 15 to 20 vehicles.
  - ▶ Site traffic crossings will not occur; one-way traffic will be utilized.
- ◆ Building Code:
    - ▶ The 2000 International Building Code (IBC) and 2003 Minnesota State Building Code are assumed to be applicable.
    - ▶ The facility is assumed to be a type S-1, moderate hazard storage use, which can accommodate a 30,625 square foot unsprinklered building if the building is constructed of non-combustible materials and has property line setbacks that allow for a maximum area increase.

Based on the design assumptions summarized in this section, a conceptual design for the facility was developed as shown in Figure 4-1. An associated site plan for the Replace Voucher Program option can be found in Figure 4-2.

Significant features of the conceptual building and site improvements include the following items:

- ◆ Building Size:: 21,125 square feet
  - ▶ Tipping floor: 16,000 square feet.
  - ▶ Loading pit: 4,000 square feet.
  - ▶ Office: 1,125 square feet.
- ◆ Site size: 4.25 acres (equivalent to one downtown city block, measured center of street to center of street).
- ◆ Building features:
  - ▶ Concrete slabs — on-grade, with surface hardener applied to the concrete.
  - ▶ Top-load filling from the tipping floor into transfer trailers located at the loading floor (which is lower than the tipping floor), using rubber-tire grapple.
  - ▶ Eave heights of approximately 20 feet.
  - ▶ Pre-engineered metal building with metal exterior wall and roof systems.
  - ▶ Concrete containment walls for ease of material management.
  - ▶ Unheated tipping and loading (spot indirect radiant heat can be provided for equipment).
  - ▶ Mechanical ventilation.
  - ▶ Increased lighting levels, including use of translucent wall and roof panels for natural light.

Figure 4-1 goes here

Figure 4-2 goes here

- ◆ Site features
  - ▶ Concrete paving for vehicle access drives.
  - ▶ Two vehicle scales (in-bound and out-bound).
  - ▶ Retaining walls for transfer trailer access via ramp to the loading floor.
  - ▶ Grading to create access to the lower loading floor area.
  - ▶ Paved parking adjacent to the office area.

Note that the conceptual facility design used in this report assumes basic needs are met relative to materials used, site size and operational methods. Factors such as neighborhood design requirements and long-term efficiency improvements can be refined during final design and could increase capital costs by 10 to 20 percent.

#### **4.1.4 Permitting Needs/Process**

In order to obtain an MSW transfer station permit, an applicant has to start at the local level to get approval. The MPCA will not review an application until it is demonstrated that the local permits have been obtained. Based on past experience of siting transfer stations in Minneapolis, the approval process in the City is the biggest hurdle. An applicant has to start at the neighborhood level and make presentations at community meetings. Many times the neighborhoods have subcommittees for environmental and business review.

At the same time, the Division can start the City permit process by meeting with the Planning and Zoning Department. A City Planner will be assigned to the project and can assist the Division through the city requirements. First, the site selected has to have the proper zoning. If it does not, another process is needed to request a change in zoning. An application is submitted to Zoning for their review. This leads up to the request for a Conditional Use Permit (CUP). This application needs to be approved by the City Council and public comment is encouraged. Following the approval of the CUP, other City departments get involved before a building permit can be issued.

The following is a summary of permits or licenses required to construct an MSW transfer station facility in the city of Minneapolis:

##### Local – Neighborhood

- ◆ Neighborhood approval, including subcommittees such as:
  - Environment Committee
  - Business Development Committee
- ◆ Council member's support
- ◆ Minneapolis Community Planning and Economic Development Agency (CPED) process

##### Local – City of Minneapolis

- ◆ Conditional Use Permit (CUP) (Planning Department)
- ◆ Site Plan Review (Zoning Department)
- ◆ Building Permit

#### County – Hennepin County

- ♦ Solid Waste License

#### State – Minnesota Pollution Control Agency (MPCA)

- ♦ Transfer Facility Permit-by-Rule *and/or*
- ♦ Solid Waste Processing Permit
- ♦ Environmental Assessment Worksheet (EAW)
- ♦ Construction documentation report and drawings

#### State – Office of Environmental Assistance (OEA)

- ♦ Certificate of Need (CON)
- ♦ Solid Waste Board approval

### **4.1.5 Timeline**

The county license process can take several months. The City permit process can take one to two years or longer, depending on neighborhood concerns.

The MPCA (as of April 14, 2004) has caught up on their backlog of transfer station permit application reviews. The review time for a new transfer station located in the metro area will follow the review guidelines from State Statute, which allows 30 days for the MPCA to perform a completeness review and 180 days for the technical review. There is a mandatory 30-day public comment period.

The MPCA also has a Solid Waste Expedited Permit Program. Minnesota Statute 116.07, subpart 4d(f) allows for applicants that wish to construct or expand a facility to offer to reimburse the MPCA for all costs of staff overtime or consultant services needed to expedite permit review.

### **4.1.6 Anticipated Facility Costs**

The preliminary anticipated facility costs were developed using the conceptual building and layouts shown in Figures 4-1 and 4-2, respectively. A summary of capital costs is shown in Table 4-1.

Table 4-1 City of Minneapolis Anticipated Facility Capital Improvement Costs, Voucher Program Only

		Cost
Site development		\$ 500,000
Building construction		1,168,000
	Subtotal	\$1,668,000
Contingency		167,000
Permitting and other costs <sup>1</sup>		368,000
Total anticipated project costs <sup>2</sup>		\$2,203,500

<sup>1</sup> Includes permitting costs, legal fees and other administrative costs.

<sup>2</sup> Using 2004 dollars, not including land purchase, furnishings, equipment and operating costs.

Operating costs for the Voucher Program facility can be estimated by using existing operating costs (see Section 2.4) plus depreciation costs. Using these costs as a basis, annual operating costs are estimated at \$1,170,000.

#### 4.1.7 Advantages/Disadvantages

##### Voucher Program Only, New City Facility

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>◆ Continued service to 10,000+ customers a year.</li> <li>◆ No increase in illegal dumping.</li> <li>◆ No complaints from Park Board.</li> <li>◆ No complaints to elected officials from businesses, citizens, and neighborhoods.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Potential process for site selection, permitting, etc.</li> <li>◆ Increased capital costs.</li> <li>◆ Likelihood of being located farther from City centroid than currently.</li> <li>◆ Loss of transfer capacity with current permit.</li> <li>◆ Lost capability to address disaster recovery.</li> </ul>

#### 4.2 Non-City Site/Operation (Contractor)

This option would have the Division contracting with one or more private entities to provide the Voucher Program waste receipt and transfer services.

##### 4.2.1 Impact on Voucher Distribution System

If the Division chooses to have just one contractor/site to provide the services, the Division's approach to distribution of vouchers may not change significantly. If there were more than one site, the Division may need to provide for the computerized tie-in to each contractor and have

some increased costs from those shown in Table 3-2 minus the phone and accounting staff. Each additional site would raise the Division's annual costs an estimated \$14,516 each.

#### **4.2.2 Contractor Procurement Options**

Section 3.2, Resident Options in an Open System, provided an overview of potential facilities that residents could utilize in an open system. The operators at these facilities vary in the types of materials they currently handle. They do not all currently have the same capabilities. In addition, it may be possible that a facility not currently having transfer capability could choose to try to enter the business, although the permitting requirements and local approval process is likely to require considerable time and expense for a new operation. Perhaps the most likely facilities in this category could include existing recyclables processing operations. For preliminary planning purposes, the time required to obtain all the permits required for a private transfer station operation is expected to be the same as a City facility—one to two years.

There are several issues the City will need to address to identify their preferred Voucher Program contract operator. Does the City desire to have an exclusive contractor (only one operation) that is eligible for residents to use City vouchers or would the City contract with multiple operations that are capable of providing the required service (thereby allowing residents to choose the facility most convenient for their needs). Assuming there is more than one contractor, does every contractor need to handle all the different types of wastes handled at the South Transfer Station (i.e., full service), or handle only specific waste streams matching their current operations?

Will the City provide a “waste delivery guarantee” or some type of minimum payment or simply contract for access on behalf of City residents? Providing a guarantee could result in a lower unit cost but could also result in payment for service not provided. Does the City desire the contracted facility to be located within the City limits or could facilities in adjoining communities be under contract? Locations within the City may be more convenient, but such a requirement could also significantly limit the number of potential contractors.

Finally, what procurement process does the City desire to utilize? If the Division can develop a detailed set of specifications for the services, the City may issue a Request for Bids and make a selection primarily on price. A Request for Proposals could allow more flexibility for a potential contractor to propose services matching their capabilities in their most cost-effective manner, but could also result in the City not getting exactly the service requested and make selection more difficult. Finally, another option could be to contract with any contractor (i.e., multiple contracts) that meets a set of minimum criteria.

#### **4.2.3 Cost Estimate**

No cost estimate for a contract operation was developed at this time due to the multitude of decisions needing to be made before this is considered.

#### **4.2.4 Timeline**

Contracting for the Voucher Program at a private location could be implemented quicker than at a City site depending on variables such as the existing facility and existing permits.

#### 4.2.5 Advantages/Disadvantages

##### Voucher Program at a Contractor Site

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Advantages	Disadvantages
<ul style="list-style-type: none"><li>◆ Continued service to 10,000+ customers a year.</li><li>◆ No increase in illegal dumping.</li><li>◆ No complaints from Park Board</li><li>◆ No complaints to elected officials from businesses, citizens, and neighborhoods.</li></ul>	<ul style="list-style-type: none"><li>◆ Permitting process for private contractor.</li><li>◆ Potential increase in costs.</li><li>◆ Potential reduction in convenience for residents.</li><li>◆ Potential requirement of residents to haul to more than one location.</li><li>◆ Loss of transfer capacity.</li><li>◆ Lost capability to address disaster recovery.</li></ul>

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#### 4.3 Impact of Loss of 350 Tons Per Day (tpd) Transfer Capacity

The City has maintained the permit capacity of both the South and North Transfer Station capacities at 350 tpd even during a time period when most of the MSW is delivered to the Hennepin County Waste-to-Energy (HERC) facility. There is very significant, strategic value for the City in maintaining this transfer station permitted capacity.

##### 4.3.1 Considerations Over the Long Term

The Solid Waste and Recycling Division is in the development stages of preparing a 30-year Solid Waste and Recycling Master Plan. This Plan will address many different issues associated with provision of solid waste management services and policies. It will address the City and Division's mission as well as policy issues at the state, metropolitan, county, and city level. The Plan will cover management issues, garbage collection, disposal strategies, recyclables collection and processing, transfer stations, equipment replacement and maintenance issues, Clean City Programs, and the overall Business Plan. The Plan will reflect the need for maintaining a long-term vision to protect the interests of the City and provide for safe, environmentally protective, cost-effective, and sustainable solid waste management services.

Maintaining permitted, significant transfer capacity is anticipated to be one of the critical components in providing ongoing and long-term flexibility for the City to cost effectively meet its solid waste management needs.

## **4.3.2 Risk Associated with the Loss of the 350 tpd Transfer Capacity**

### **4.3.2.1 Back-up Capabilities**

The South and North Transfer Stations are back-up delivery locations for garbage collection vehicles serving the City. If for any reason, HERC was unable to receive garbage deliveries for a period of time, the City can cost-effectively route the garbage collection route vehicles to the transfer stations. This avoids the expense and wear and tear of much longer drives for each truck to delivery locations outside of the City. The longer trips and the subsequent delays from the additional traffic at the other delivery locations, could adversely affect timeliness of garbage collection within the City and the associated health, safety, and cleanliness impacts. The longer hauls and associated drive time would affect route sizing if it continued. This would have a significant financial impact on collection costs.

### **4.3.2.2 Maintaining Flexibility for Disposal Locations**

As noted, the Division is preparing a 30-year Master Plan for solid waste management. History has shown that many things will change over such a long time period in the solid waste management industry. The transfer station capacity provides the City with great flexibility in maintaining access to disposal facilities. This flexibility has already proven its cost-effectiveness for the City in that the transfer stations can be used for cost-effective access to alternative disposal locations. While the City has a relatively good contract price at HERC at this time, this could change in the future. The transfer stations provide the flexibility for the City to better control its destiny regarding disposal services. This is a significant, strategic advantage for the City.

### **4.3.2.3 Disaster Preparedness**

Natural and man-made disasters occur from time to time. The transfer station capacity provides a critical component of disaster recovery and the removal of disaster debris. As an example, in 1997 there were hundreds of basements flooded in the City. The debris from these basements could not be accepted at HERC. The Division had the ability to rapidly deploy the North Transfer Station to handle these wastes in a cost-effective manner and dispose of the debris at a location outside of the City. With the North Transfer Station currently committed to handling yard wastes, the South Transfer Station becomes more critical for disaster preparedness.

## **4.3.3 Summary**

The City interests are best served by maintaining the permitted transfer station capacity into the future.

## **4.4 Replace Voucher Program with Future Expansion Potential**

This alternative to the Replace Voucher Program described in Sections 4.1 through 4.3 proposes to initially develop a transfer station to serve the Voucher Program but plan for expansion to develop a future MSW transfer station as an addition to the original building.

The basic Voucher Program transfer facility would be developed as described in Section 4.1.3, with provisions to construct the 350 tpd MSW transfer station as shown in Figure 5-1. Building and site features for the fully developed facility would be similar to those described in

Sections 5.1.3, but construction sequencing, with initial construction developed for future accommodations and future separate construction activities to build the addition, can be expected to be more costly than constructing the voucher and MSW facility at the same time (see Section 5).

Note that the site in Section 5, Figure 5-2, is approximately 20 percent larger than the site planned for only the Voucher Program (see Figure 4-2).

Table 4-2 provides a summary of anticipated facility capital costs.

Table 4-2 City of Minneapolis Anticipated Facility Capital Improvement Costs, Voucher Program With Future Expansion

	Cost
Total cost – Voucher Program Only (see Section 4.1.6)	\$2,203,500
Expansion site development	\$ 182,000
Expansion building construction	\$1,246,000
Expansion subtotal	\$1,428,000
Expansion contingency	\$ 143,000
Expansion permitting and other costs	\$ 314,000
Expansion total anticipated project cost <sup>1</sup>	\$1,885,000
Total cost Voucher Program with Expansion <sup>2</sup>	\$4,088,500

<sup>1</sup> Includes permitting costs, legal fees and other administrative costs.

<sup>2</sup> Using 2004 dollars, not including land purchase, furnishings, equipment and operating costs.

Operating costs for the Voucher Program portion can be found in Section 4.1.6 and total \$1,170,000 annually. Annual operating costs for the MSW portion are estimated as an additional \$370,000 based on industry averages, not including disposal and transportation.

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### Voucher Program With Future Transfer Station Expansion

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#### Advantages

- ◆ Continued service to 10,000+ customers a year.
- ◆ No increase in illegal dumping.
- ◆ No complaints from Park Board.
- ◆ No complaints to elected officials from businesses, citizens, and neighborhoods.
- ◆ Potential transfer capacity for strategic management issues.

#### Disadvantages

- ◆ More costly overall.
  - ◆ Potential process for site selection, etc.
  - ◆ Increased capital costs.
  - ◆ Likelihood of being located farther from City centroid than currently.
  - ◆ Loss of transfer capacity at the beginning.
  - ◆ Lost capability to address disaster recovery at the beginning.
-

## 5. Option: Voucher with Replacement of 350 tpd

### 5.1 City Site/City Operated

#### 5.1.1 Site Selection Criteria

Refer to Section 4.1.1 for a discussion of site selection criteria for a solid waste transfer facility. The criteria outlined in that section are also applicable to this option, including the 350 tpd MSW transfer station.

#### 5.1.2 Site Needs

The following general site needs can be utilized to start the process of selecting a specific transfer station site that accommodates a 350 tpd MSW transfer operation.

- ◆ **Location.** Location needs are similar to the location needs noted in Section 4.1.2, but the actual centroid of collected waste would likely change to accommodate the generation area associated with the 350 tpd MSW waste stream.
- ◆ **Size and topography.** The site should be a minimum of 5 acres in size, although for optimum site traffic, an additional 3 to 5 acres would be recommended. Topographic relief needs are similar to those identified in Section 4.1.2.
- ◆ **Utilities.** Electricity, natural gas, water, sanitary sewer, and telephone service should be available at the site.

#### 5.1.3 Permitting Process

The permitting process is the same as discussed in Section 4.1.4. The difference in permitting a larger ton per day facility is that the process now includes a mandatory EAW, for which the MPCA would be the Responsible Governmental Unit (RGU). This includes another public comment period for citizens and other agencies to express concerns.

#### 5.1.4 Conceptual Design

The conceptual design of the facility and site to address the Voucher with Replacement of 350 tpd Transfer Station option was based on the following criteria and assumptions.

- ◆ **Materials**
  - ▶ Materials generated from the Voucher Program are outlined in Section 4.1.3.
  - ▶ 350 tpd of MSW (average); 550 tpd MSW for peak day design.
  - ▶ In addition to the peak day factors shown, a 10 percent growth factor was applied to account for potential future increases in material quantities over the life of the facility.

- ◆ Vehicles/Deliveries
  - ▶ Material deliveries from the Voucher Program are outlined in Section 4.1.3.
  - ▶ MSW is anticipated to be delivered mainly by packer trucks. The option to direct dump the packer trucks into the top loaded transfer trailer located at the lower tipping floor is included.
  - ▶ An in-bound packer truck scale would be used to monitor MSW material weights. It has been assumed that a tare weight system will be initiated to eliminate the need for MSW trucks to re-weigh after tipping. If non-tare trucks do utilize the site, re-weighing can be accomplished by returning to the in-bound scale after tipping.
  - ▶ Queing is provided for approximately four to five packer trucks between the scale and the transfer trailer ramp access.
  - ▶ Site traffic crossings will not occur; one-way traffic will be utilized.
  
- ◆ Building Code
  - ▶ Refer to Section 4.1.3 for applicable building codes.
  - ▶ The facility is assumed to be a type S-1, moderate hazard storage use, which can accommodate a 30,625 square foot unsprinklered building under certain circumstances. Since the proposed facility size exceeds this allowable maximum, a fire sprinkler system will be needed.

Based on the design assumptions summarized in this section, a conceptual design for the facility was developed as shown in Figure 5-1. An associated site plan for the Voucher With Replacement of 350 tpd Transfer Station option can be found in Figure 5-2.

Significant features of the conceptual building and site improvements include the following items:

- ◆ Building size: 33,125 square feet.
  - ▶ Voucher tipping floor: 16,000 square feet.
  - ▶ MSW tipping floor: 12,000 square feet.
  - ▶ Loading pit: 4,000 square feet
  - ▶ Office: 1,125 square feet.
  
- ◆ Site size: 5 acres (equivalent to one residential City block measured center of street to center of street).
  
- ◆ Building features:
  - ▶ Concrete slabs — on-grade, with surface hardener applied to the concrete.
  - ▶ Top-load facility from both voucher tipping floor and the MSW tipping floor into transfer trailers located at the loading floor (which is lower than the tipping floors).
  - ▶ Eave height of approximately 32 feet to accommodate a 28-foot tall overhead door at MSW tipping.
  - ▶ Pre-engineered metal building with metal exterior wall and roof systems.
  - ▶ Concrete containment walls for ease of material management. Containment walls at MSW tipping are planned to be 12 feet in height to allow at least 10 foot tall MSW staging piles.
  - ▶ Unheated tipping and loading.

Figure 5-1 goes here

Figure 5-2 goes here

- ▶ Mechanical ventilation.
  - ▶ Increased lighting levels and use of translucent wall and roof panels for natural light.
  - ▶ Fire sprinkler system using pressurized “dry” system for use in unheated areas.
- ◆ Site features:
    - ▶ Concrete paving for vehicle access drives.
    - ▶ Separate drives for voucher vehicles and MSW vehicles to allow for traffic safety while on the site.
    - ▶ Two voucher vehicle scales and one MSW packer truck scale.
    - ▶ Retaining walls for transfer trailer access to the loading floor.
    - ▶ Grading to create access to the lower loading floor area.
    - ▶ Paved parking adjacent to the office area.

Note that the conceptual facility design used in this report assumes basic needs are met relative to materials used, site size and operational methods. Factors such as neighborhood design requirements and long-term efficiency improvements can be refined during final design and could increase capital costs by 10 to 20 percent.

### 5.1.5 Timeline

The timeline for permitting a 350 tpd facility will be very dependent on the selected location and the acceptance by the community. The process typically takes approximately two years, if not contested.

### 5.1.6 Anticipated Facility Costs

The preliminary anticipated facility costs were developed using the conceptual building and site layouts shown in Figures 5-1 and 5-2, respectively. A summary of capital costs is shown in Table 5-1.

Table 5-1 City of Minneapolis Anticipated Facility Capital Improvement Costs, Voucher With Replacement of 350 tpd

	Cost
Site development	\$ 592,000
Building construction	2,118,000
Subtotal	\$2,710,000
Contingency	271,000
Permitting and other costs <sup>1</sup>	597,000
Total anticipated project cost <sup>2</sup>	\$3,578,500

<sup>1</sup> Includes engineering fees, legal fees and other administrative costs.

<sup>2</sup> Using 2004 dollars, not including furnishings, equipment and operating costs.

Operating costs for the Voucher With Replacement of 350 tpd facility can be approximated based on the costs described in Section 4.1.6 and 4.4, totaling \$1,540,000 annually, not including transfer station MSW disposal and transportation costs.

## 5.2 Advantages/Disadvantages

<b>Voucher Program 350 tpd Transfer Station at Start</b>	
Advantages	Disadvantages
<ul style="list-style-type: none"> <li>◆ Continued service to 10,000+ customers a year.</li> <li>◆ No increase in illegal dumping.</li> <li>◆ No complaints from Park Board.</li> <li>◆ No complaints to elected officials from businesses, citizens, and neighborhoods.</li> <li>◆ Potential lower cost than expanding in future.</li> <li>◆ Retain transfer capacity and disaster preparedness capability.</li> <li>◆ Retain strategic value of permitted capacity.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Potential process for site selection, etc.</li> <li>◆ Increased capital costs.</li> <li>◆ Likelihood of being located farther from City centroid than currently.</li> </ul>

## 6. Option: Voucher with Replacing Pacific Operations and Transfer Facility at 500 tpd

### 6.1 City Site/City Operated

#### 6.1.1 Site Selection Criteria

The general site selection criteria were described in Section 4.1.1, Site Selection Criteria.

#### 6.1.2 Site Needs

The site needs associated with the Voucher plus 350 tpd option, which are summarized in Section 5.1.2 also apply to this option, except the basic site size would need to be increased from a minimum of 5 acres to allow for the increase to a 500 tpd MSW transfer operation.

Additional site needs to accommodate the operations at the existing Pacific facility plus associated solid waste functions can be summarized as follows:

- ◆ Fleet maintenance and parking (inside).
- ◆ Spare truck parking on site.
- ◆ Visitor parking on site.
- ◆ Office space for staff of approximately 130 people.
  - ▶ Maintenance.
  - ▶ Supervisory.
  - ▶ Customer service.
  - ▶ Collection.
  - ▶ Management.
- ◆ Problem materials processing (inside).
- ◆ Site traffic circulation.

The site size necessary to accommodate the Pacific site effectively is approximately 4.5 acres. Therefore, a site for the Voucher With Replacing Pacific Operations and 500 tpd Transfer Facility would total 10 acres at a minimum. Given the various site functions and the need to maintain effective and safe vehicle traffic, a site of 15 acres may be considered. A site ranging in size from 10 to 15 acres would be comparable to two to three residential sized city blocks, measured center of street to center of street.

Since it is not known whether the City can locate and purchase a single site of the size needed, further analysis of this option will not be included in this report. Upon identifying that a site purchase is feasible, further conceptual site and facility layout, costs, and impacts can be developed.

The permitting process will be the same as the 350 tpd facility, which includes the mandatory EAW. A larger facility could generate more public concerns during the public comment periods. The public could petition for the completion of an Environmental Impact Study (EIS). The EIS process has the potential to delay projects by one to two years.