Appendix "A" to Motion respecting Financial Support for Waste Management Development and Consulting Fees for Relocation of Garbage Dumpsters on the CityHousing Hamilton Property at 45 Montcalm Drive, Hamilton (Ward 8)

DILLON CONSULTING

CITY HOUSING HAMILTON

Waste Management Options Development

45 Montcalm Drive

May 2022 – 21-3173

May 24, 2022

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Attention: Mary Tullo, Project Manager, Strategic Planning and Quality Improvement

45 Montcalm Drive – ***Waste Management Options Development***

Dillon Consulting Limited (Dillon) is pleased to provide this report which summarizes the information collected as part of developing waste management options for 45 Montcalm Drive. This report includes the results of consultation with tenants and neighbouring properties, an on site assessment, a review of potential options and estimated costs, number of containers and collection frequency for two container options in a relocated waste storage are.

We look forward to discussing this report and the next steps with you.

Sincerely,

DILLON CONSULTING LIMITED

Alida Kusch

Alida Kusch
Project Manager, Associate

Our file: 21-3173

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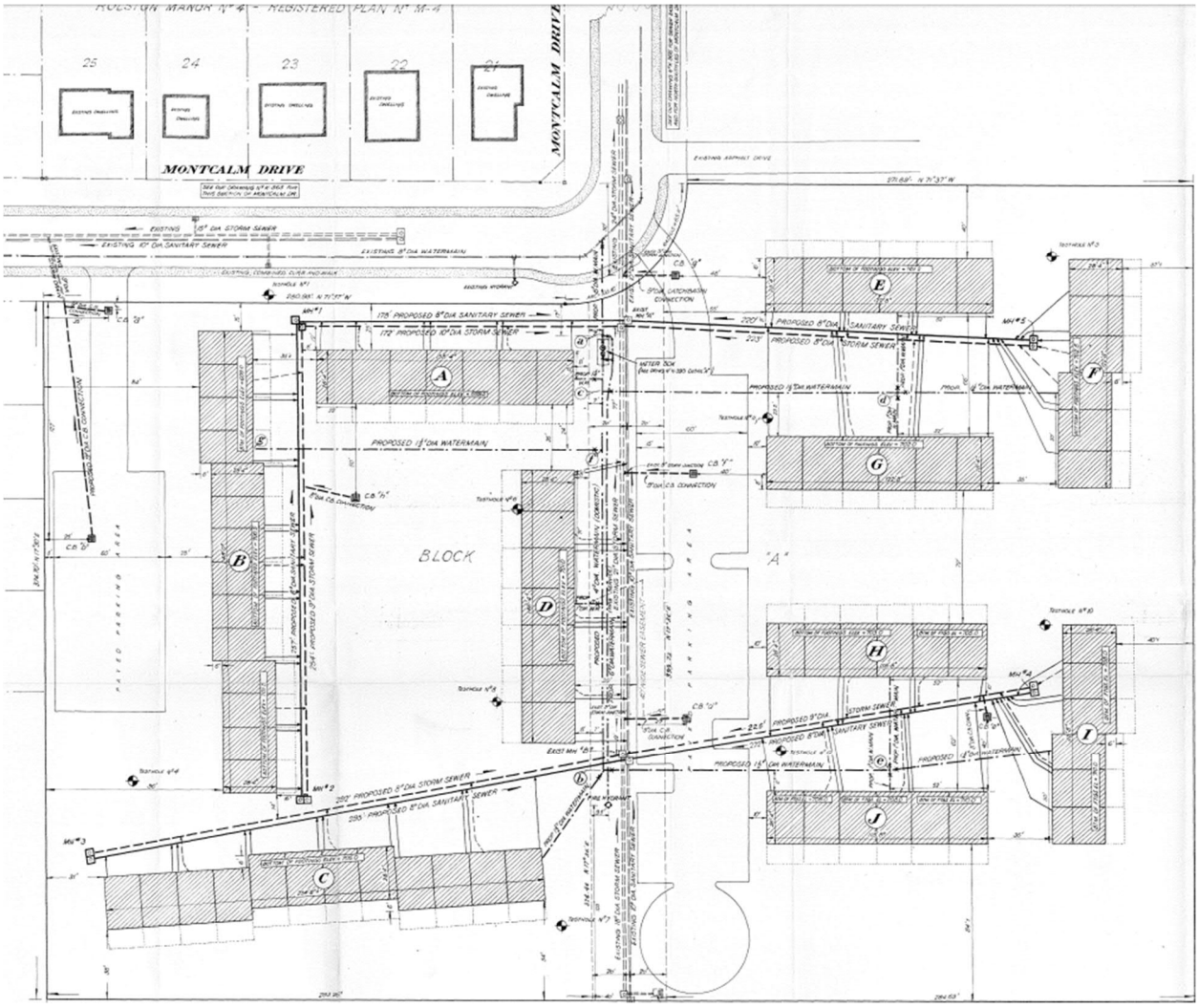
1.0 Introduction

City Housing Hamilton (CHH) is owned and operated by the City of Hamilton (City) and provides over 7,000 affordable housing units (approximately 13,000 tenants) to the community. One of CHH's properties includes 45 Montcalm Drive which is comprised of 76 units distributed through several row houses (see Figure 1), also referred to as Blocks alphabetized from A to J.

Figure 1: 45 Montcalm Drive Site Layout



Currently, there are several dumpsters located on a concrete pad adjacent to the sidewalk at the entrance to the property (see Figure 2). These dumpsters are highly visible to the street and neighbouring properties. This has resulted in complaints from the neighbouring properties due to the appearance of the dumpsters, the location of the dumpsters and how garbage ends up on neighbouring properties from tenants leaving garbage beside the dumpster and the wind blows it over. Additionally, due to their easily accessible location from the road, it is common for illegal dumping to occur inside and beside the dumpsters. This has also contributed to neighbouring properties complaints. These dumpsters are collected by the City's collection contractor three days per week (Monday, Wednesday and Friday); however, the City has indicated that they would like to decrease the collection frequency. Additionally, there is currently no recycling or organics collection for all tenants, only tenants in Block A.

Tenants in Block A (seven units) with a front door directly on Montcalm Drive may place waste at the curb for curbside collection; however, they may also use the dumpsters on site. These tenants recently received blue boxes for recycling and green carts for food scraps from CHH; however, it is unknown how many tenants are placing out their sorted blue boxes and green carts for curbside collection.

Figure 2: Dumpsters at Entrance to 45 Montcalm Drive

CHH would like to implement a long-term solution that involves relocating the waste storage area and reducing illegal dumping; however, relocation requires ensuring that the City's collection contractor can safely service the site. CHH has met with the City's waste management staff regarding the City's current concerns with the site layout (e.g., collection truck turning radius if the waste storage area is located further into the property). CHH is also interested in considering options for expanding access to waste diversion collection programs (e.g., recycling and organics).

In 2022 CHH retained Dillon Consulting Limited (Dillon) to assist with the development of long-term waste management options at 45 Montcalm. This occurred through several activities:

- Project kick off meeting with CHH and Councillor Danko;
- Site tour to understand current conditions and what potential options could be considered;
- Exploring which potential options could be configured on site that would allow for collection vehicle servicing;
- Tenant and neighbouring property consultation; and
- Development of final options including cost and resource estimates.

2.0 Potential Options

On January 13, 2022 Dillon conducted a site tour with CHH staff to determine several potential options for relocation of the waste storage area. Dillon also had a meeting with the City's Waste Management Department and CHH on January 21, 2022. The intent of the meeting was to discuss what City design requirements criteria CHH would be required to comply with in order to continue to receive waste collection services from the City if the waste storage area was relocated. Dillon was provided with the City's Waste Requirements for Design of New Developments and Collection. It was noted by the City that 45 Montcalm Drive would not need to comply with all of the new development requirements as the site was not being redeveloped; however, the site must meet the collection requirements for a waste collection vehicle to safely collect waste materials.

2.1.1 Waste Storage Area Relocation Options

Based on the site tour, meeting with the City and the City's waste design criteria, several options were developed to relocate the waste storage area which are described in Table 1. The options are based on the four locations identified in Figure 3. Location 1 is where the current containers are stored.

Figure 3: 45 Montcalm Drive Waste Storage Area Considerations

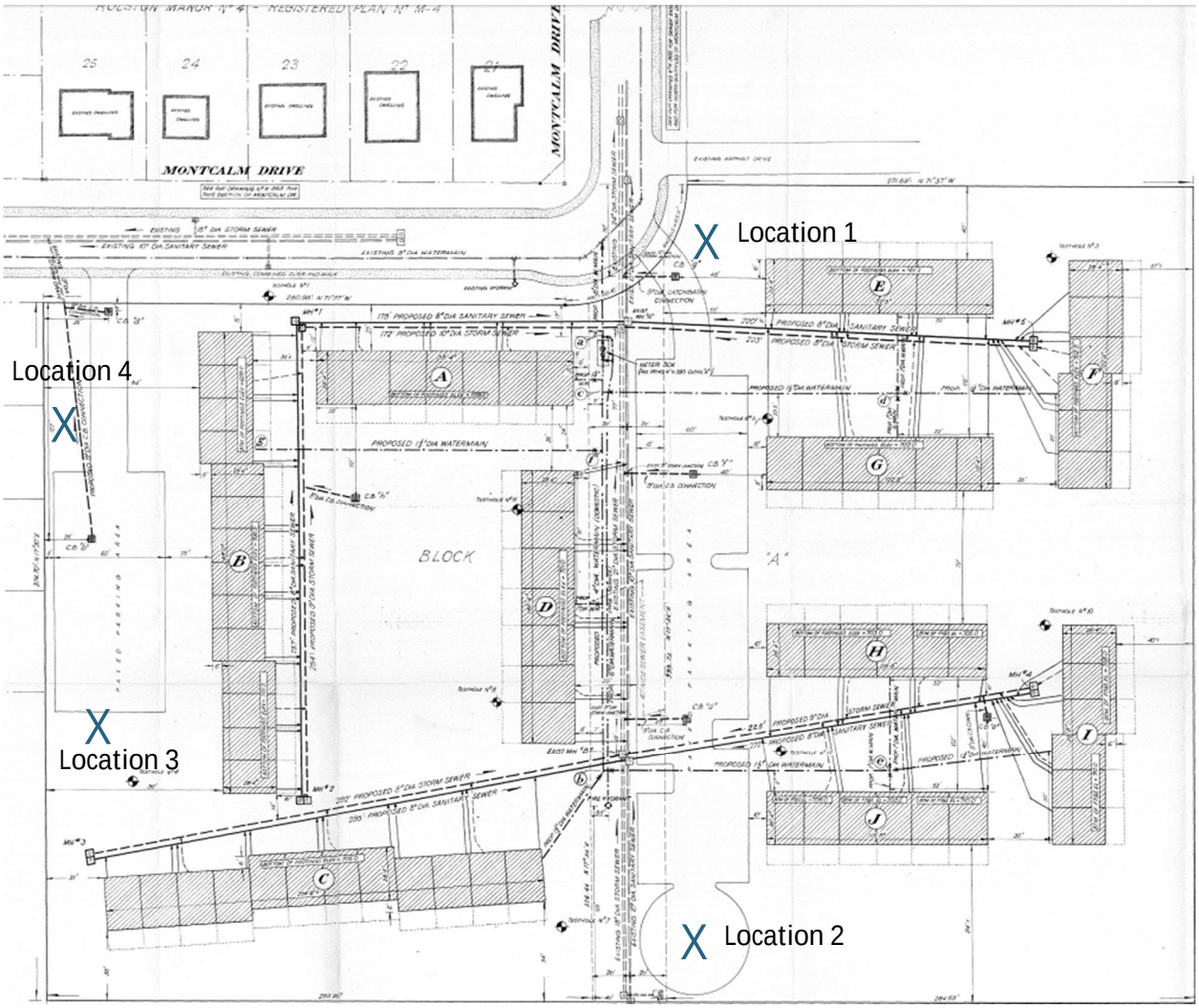


Table 1: Potential Waste Storage Area Relocation Options

#	Option	Compliance with Design Criteria[1]	Location Accessible for Tenants	Potential to Reduce Illegal Waste	Potential Acceptance from Tenants	Potential to Reduce Complaints	Additional Comments
1	Keep waste storage area at location 1. Add a turnaround at location 2.	✓	Same as currently	X	-	X	- May require relocating containers so that they are not facing the street and add a fence to hide the containers. This would likely impact the sloped driveway to the storage shed and make it inaccessible for vehicles to park in and/or back up to the rollup door.
2	Move waste storage area to location 2. Add a turnaround at location 2	✓	Same as currently as still in middle of the site	✓	-	✓	- May receive complaints from tenants near location 2.
3	Move waste storage area to location 3. Add a turnaround at location 3	X	Less than currently	✓	X	✓	- Containers will be directly in front of some units and may receive complaints from tenants.
4	Move waste storage area to location 4. Add a turnaround at location 3	X	Less than currently	X	X	X	- May have new complaints from properties on Elgar Avenue with backyards backing on to location 4. May need to build privacy fencing. - Will lose greenspace/sidewalks.
5	Move waste storage area to location 2. Add a one-way access road from location 2 that goes behind the Block C units and meets Location 3.	✓	Same as currently	✓	X	✓	- Other vehicles may use road. May require gates to reduce traffic from using the road. Road will require maintenance/winter plowing. - Will lose greenspace/sidewalks.
6	Remove waste storage location. Add a one-way access road from location 2 that goes behind the Block C units and meets location 3. Implement curbside collection for all Blocks.	✓	✓	✓	Mixed as some tenants will like curbside service and others may not like losing access to 7 day a week waste disposal	✓	- Other vehicles may use road. May require gates to reduce traffic from using the road. Road will require maintenance/winter plowing. - Will lose greenspace/sidewalks. - May require a designated area for bulk items which will require separate collection. - Could increase participation in organics and recycling programs (if implemented). - Could reduce collection frequency.

1 Must have in order to be serviced by the City

The six potential waste storage area relocation options were presented to CHH and discussed on January 25, 2022. Based on the discussion it was determined by CHH that the most suitable option for relocation of the waste storage area was option 2, with storage at location 2 where a collection vehicle turnaround would also be located. CHH also indicated that location 1, where the existing dumpsters are located, would be turned into a seating area.

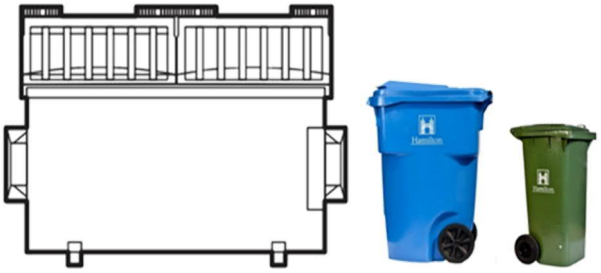


Figure 4: Container Option 1

2.1.2 Container Options

As part of this study, Dillon also reviewed several waste storage (container) options for the segregation of recycling and organics, as well as additional container options for garbage. Only containers that are approved in the City's Waste Requirements for Design of New Developments and Collection were considered as through discussion with CHH it was determined that continuing with the City's service versus contracting with a third-party hauler was the best servicing option for CHH. Based on this, two container options were developed for CHH.

Container Option 1

Garbage goes into a dumpster, similar to how it is currently collected. Recycling is collected in blue carts and organics are collected in green carts (see Figure 4).

Container Option 2

Garbage, recycling and organics are put into separate EarthBins[1] that go into a closed container underground and allow for more waste materials to be stored than Container Option 1 (see Figure 5). EarthBins were selected as they are the only in-ground containers that may be permitted at the City's discretion for City collection at multi-residential townhouse developments. The City also provided Dillon with confirmation that the City would service garbage, fibres, containers and organics in EarthBins, noting that City approval is required for the placement of the containers to ensure that the City may service where the containers are installed.

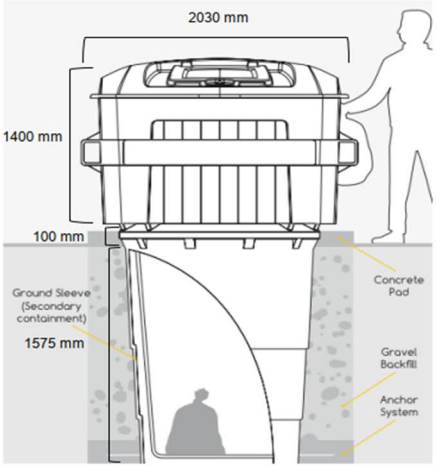


Figure 5: **Container Option 2**

[1] https://www.earthbin.com/

2.2 Tenant and Neighbouring Property Consultation

During the week of March 14, 2022, surveys outlining both of the container options with the relocation of the waste storage area to location 2 were mailed out to all tenants to gather their input on the potential options. Tenants were able to either complete the survey online, mail back the hard copy survey to CHH or drop off the survey in a collection box on site over a two week period. Feedback was collected on the following:

- If the tenant recycles in their home;
- Which of the two container options the tenant prefers, if any, including what the tenant does and does not like about the options;
- Acknowledgment if the tenant will use the containers for recycling and organics including if they received free containers to sort recycling and organics into;
- Awareness of the rules and procedures to dispose of bulk waste on site;
- Any additional comments regarding garbage; and
- Language(s) spoken at tenant's home.

Eight surveys were received from tenants; six provided their unit number which were located within separate blocks in the development. This represents 10% of the units, assuming that the two units that did not provide their unit number are not from tenants in the same unit as any of the other tenants that provided a response to the survey. Survey results indicated the following:

- 100% of respondents indicated that they spoke English in their household. Based on information from CHH there are non-English speakers within the development which represents a gap in the collected data.
- 75% of responding tenants use the current dumpsters on site. One of the tenants that does not use the dumpsters indicated that it is due to CHH telling them not to use the dumpsters. It is assumed that this tenant is located along Montcalm Drive and receives curbside collection from the City.
- 100% of responding tenants are aware of the rules and procedures to dispose of bulk items on site.
- 71% of respondents indicated that they recycle both cardboard, paper, plastic and containers in their household. 29% of respondents indicated that they only recycle plastic and containers.
- 63% of respondents indicated that they liked both of the two container options. Reasons for liking the options included the following:
  - Appears to be easier to separate garbage;
  - Option 2 hides the garbage better so that it is less unsightly;
  - May assist with reducing garbage piling up beside containers; and
  - Tenant can recycle on site and will not have to drive to recycling centre to drop off recyclables.
- The 37% of respondents that did not like the two container options indicated the following reasons:
  - Tenants that enter the development from the second driveway, closer to Elgar Avenue will still have a far walk over to the waste storage area;
  - One tenant is located directly beside the proposed location and indicated they would be unable to enjoy their backyard due to the odours;

  - Concern for neighbours that may be handicapped and/or have mobility issues and the inaccessibility of the containers;
  - Concern for children that are disposing of garbage as the containers may be too high; and
  - Lack of understanding regarding what goes where for recycling and organics.
- Between the two options, 75% of respondents indicated that they like container option 2 the best and the remaining respondents (25%) indicated that they like container option 1 the best.
- Other suggestions for options included the addition of more community garbage cans, addition of an on site property superintendent and the selection of a better location for the garbage (from the tenant that backs on to the proposed location).
- Six respondents indicated that they would use the new containers in the garbage area for recycling and organics. The same six respondents indicated that they would use new recycling and organics containers if they received free containers to sort their waste at home.
- When asked if there were any other comments regarding garbage the following was provided:
  - One respondent currently recycles on their own; however, they felt that food waste bins are messy, dirty and an animal attractant;
  - A respondent suggested small organics bins with a unit number on them would be appreciated as well as blue boxes with labels for the containers and papers streams;
  - Smaller children have been disposing of waste at the request of their parents; however, they cannot reach the containers and often leave the waste beside the containers; and
  - During the past spring/summer there were rodents observed within the current containers.

Neighbouring properties that have provided complaints to CHH and Councillor Danko were provided with a link to a separate online survey. The survey requested information on concerns, potential solutions and any other additional comments with respect to the garbage collection system at 45 Montcalm Drive. Two neighbours provided feedback through the survey.

The first neighbour indicated that the current set up is unsafe as collection vehicles drive over the sidewalk to pick up the dumpsters. This can be loud and the drivers are sometimes careless with how the dumpsters are collected which leads to garbage blowing out of the dumpsters. This is not cleaned up by anyone and the neighbour often has garbage on their lawn and has observed garbage on other neighbouring property lawns. The first neighbour also indicated that they feel the dumpsters are disgusting to look at out their front window. The second neighbour had similar comments and indicated that the garbage ends up on the street and in front of neighbouring properties and indicated that this is a health and safety issue.

The first neighbour did indicate that the garbage situation is the best it has been since they moved in many years ago and that there has been on site change to ensure that tenants are disposing of waste properly. Garbage within the parking lots and front yards that leads to an appearance of neglect and indifference was also noted by the first neighbour.

This neighbour also suggested to move the dumpsters to the rear of the development parking lots and for the City to force compliance with City standards for using blue carts. Additionally, the first neighbour suggested that tenants should be educated on what materials go where [noting that at this time there is only garbage disposal available to most tenants]. The second neighbour did not have any specific solutions to their concerns other than the City should respond to the complaints that they have made as they have had the same complaints for five years. The second neighbour indicated that a final and permanent solution needs to address the waste management situation at 45 Montcalm Drive.

3.0 Short-Listed Options

Based on discussions with CHH and the feedback received though the tenant and neighbouring property consultation it was determined that relocation option 2 would be the best option for 45 Montcalm Drive for waste storage. Additionally, it was determined that both of the two container options should be further assessed for the number of containers required, estimated costs and next steps.

3.1 Estimated Waste Generation

Based on current waste collection (three times weekly), the existing number of dumpsters (three) and the existing dumpster size (3 yd^3) it is estimated that approximately 27 yd^3 of waste is collected per week at 45 Montcalm Drive. During the tenant engagement a tenant indicated that they bring their recyclables to a depot. If other tenants do the same then more waste than is currently being collected could be generated on site.

Therefore, whatever configuration of containers is selected for garbage, organics and recycling, the total volume of all containers must be equal to or exceed 27 yd^3 as it is assumed that the current dumpsters are full, or close to full each pickup and that some materials (recyclables) that are generated on site are taken directly by tenants to a recycling depot.

Additionally, when adding a new collection program (e.g., recycling and/or organics) it can take some time for tenants to become used to the new collection program and understand what materials go where; therefore, the number of containers, their size and the pick-up schedule must allow for the program (and tenants) to familiarize themselves with the program and sort their materials into the correct containers.

3.2 Estimated Number of Containers

The City's Waste Requirements for Design of New Developments and Collection indicates that based on 76 units each multi-family townhouse development must have a minimum of 18 blue carts[2] and 10

[2] Table 3 of City's Waste Requirements for Design of New Developments and Collection

green carts[3], and a maximum of nine 3yd^3 dumpsters[4] for weekly collection. Based on the volumes of the containers, this equates to the weekly collection of a minimum of 14 yd^3 of recyclables and 3 yd^3 of organics and a maximum of 27 yd^3 of garbage. Several scenarios have been run and are presented below for each of the two container options to estimate the total recommended number of containers on site and their recommended collection.

Container Option 1

Table 2 provides the minimum number of blue and green carts and maximum dumpsters for weekly, twice weekly and three times weekly collection of recycling, organics and garbage. The recommended number of containers and collection frequencies are shaded green.

Table 2: Estimated Number of Containers and Weekly Collection Volumes Based on Collection Frequency per City's Recommended Volumes for Container Option 1

Waste Stream*	City's Recommended Volume		Weekly Collection	2x Weekly Collection	3x Weekly Collection
Recycling (Blue Cart)[1,2]	14 yd^3	# Containers	18	9	6
		Volume	14 yd^3	14 yd^3	14 yd^3
Organics[2] (Green Cart)	3 yd^3	# Containers	10	5	5
		Volume	3 yd^3	3 yd^3	4 yd^3
Garbage (Dumpster)[3]	27 yd^3	# Containers	9	4	2
		Volume	27 yd^3	24 yd^3	18 yd^3
TOTAL	44 yd^3	# Containers	37	18	14
		Volume	44 yd^3	41 yd^3	45 yd^3

1 Blue cart total includes both paper and containers; however, materials must be collected separately.
2 The City's blue and green cart recommended volume numbers are the minimum.
3 The recommended number of dumpsters for 3x weekly collection is 2 based on discussions with CHH indicating that the third dumpster has already been planned to be removed.

Based on the City's recommended volumes, and CHH's plans on the removal of the third garbage dumpster, Dillon proposes a hybrid approach for the collection frequency of each waste stream (noting that the City will need to confirm and approve the recommendations). Dillon recommends that recycling and organics are collected twice weekly for the following reasons:

- Less space requirements for recycling and organics carts; and
- Organics is picked up frequently which will potentially reduce tenant complaints regarding potential odours.

[3] Table 3 of City's Waste Requirements for Design of New Developments and Collection
[4] Table 4 of City's Waste Requirements for Design of New Developments and Collection

This will result in 14 containers (17 yd^3) dedicated to organics and recycling. Through discussion with CHH, it was indicated that one of the garbage dumpsters will be removed prior to implementing either Option 1 or 2. Therefore, it is recommended that CHH keep collect from the two dumpsters three times per week. This will help to determine how much waste is actually generated on site once recycling and organics are collected separately as less recycling than anticipated may be within the materials currently disposed if tenants are bringing recyclables to a depot. After several weeks of implementation and after residents have started using the recycling and organics carts, CHH should consider reducing the collection frequency to two times per week which equates to 12 yd^3 of space dedicated to garbage. This is 15 yd^3 less than the 27 yd^3 of garbage that is currently provided on site and assumes that at least 15 yd^3 of recycling or organics will be separated on a weekly basis to prevent overflow of the garbage. CHH should monitor all three streams to determine if additional organics or recycling carts should be added and/or if the collection frequency of garbage can be reduced to twice per week.

A conceptual drawing for Container Option 1 has been provided in Appendix A.

Container Option 2

The City's Waste Requirements for Design of New Developments and Collection does not provide the minimum or maximum volumes for EarthBins; therefore, the estimated number of EarthBins recommended have been calculated based on the minimum volumes for recycling and organics and maximum volumes for garbage indicated in Container Option 1 (Table 3). The recommended number of containers and collection frequencies are shaded green.

Table 3: Estimated Number of Containers and Weekly Collection Volumes Based on Collection Frequency per City's Recommended Volumes for Container Option 2

Waste Stream	City's Recommended Volume		Weekly Collection	2x Weekly Collection	3x Weekly Collection
Recycling (6.5 yd^3 EarthBin)	14 yd^3	# Containers	2	2	2
		Volume	13 yd^3	26 yd^3	39 yd^3
Organics (4 yd^3 EarthBin)	3 yd^3	# Containers	1	1	1
		Volume	4 yd^3	8 yd^3	12 yd^3
Garbage (6.5 yd^3 EarthBin)	27 yd^3	# Containers	2	2	1
		Volume	13 yd^3	26 yd^3	39 yd^3
TOTAL	44 yd^3	# Containers	5	5	4
		Volume	30 yd^3	60 yd^3	71 yd^3

Dillon recommends that two EarthBins are installed for recycling; one dedicated to the containers stream and one dedicated to the fibres stream; one EarthBin dedicated to organics and two EarthBins

dedicated to garbage (Figure 6[5]). The feed openings for the fibres and organics streams can be customized to be smaller than the garbage so that tenants are deterred from disposing of large bags of garbage in the fibres and organics stream. Additionally, the feed opening for the containers stream can be customized so that tenants are required to break down cardboard boxes prior to placing in the EarthBin.

Figure 6: EarthBin Customization Options

Dillon recommends that for the EarthBin container option, organics is collected once per week and garbage and recycling are collected twice per week. After several weeks of implementation and after residents have started using the recycling and organics EarthBins, CHH may be able to reduce the servicing of garbage to once per week; however, this would require at least 50% of the existing waste generated on site to be diverted through the organics and recycling streams in order to reduce the collection frequency.

A conceptual drawing for Container Option 2 has been provided in Appendix A.

[5] https://static1.squarespace.com/static/5818b2cc03596e3016bd3fee/t/6185517255630521d4bcc65f/1636127090299/210201_EarthBin+Product+Guide+Update_03.pdf

3.3 Estimated Costs

Based on the relocation of the storage location to Location 2, and the two container options, Dillon has prepared the estimated costs for CHH for each container option (Table 4).

Table 4: Estimated Costs

Category	Option 1 – Dumpsters	Option 2 – EarthBins
Collection and Disposal[1]	-	-
Additional Dumpsters	Assume that City would provide any additional ones to CHH at no cost	-
Construction drawings for the collection vehicle turn around, concrete pad for dumpsters, carts, Earthbins[2]	$10,000	$10,000
Procurement of construction services[3]	$5,000	$5,000
EarthBin Containers and Delivery[4]	-	$33,000
Construction for collection vehicle turn around[5]	$125,000	$125,000
Construction for concrete pad for dumpsters and carts[5]	$35,000	-
Construction for EarthBin concrete pad and installation[5]	-	$15,000
Construction observation	$7,000	$7,000
Total Estimated Costs	$182,000	$195,000

1 Assumed that the cost of collection was the same as CHH is a City entity; however, CHH will need to confirm with the City.
2 Note that EarthBin provides specifications and engineering files on their website. This assumes that these files would be used to reduce costs related to developing site specific drawings.
3 Assumed that would be completed internally with the City's procurement department with some consultant support.
4 Based on a quote provided by EarthBin. Garbage and recycling EarthBins are $5,800 each and organics is $4,000 each, plus a $350 delivery charge to the Hamilton area, plus applicable taxes.
5 Note that this does not include any costs for surveying, coordination and/or permitting with the City or unknown underground conditions.

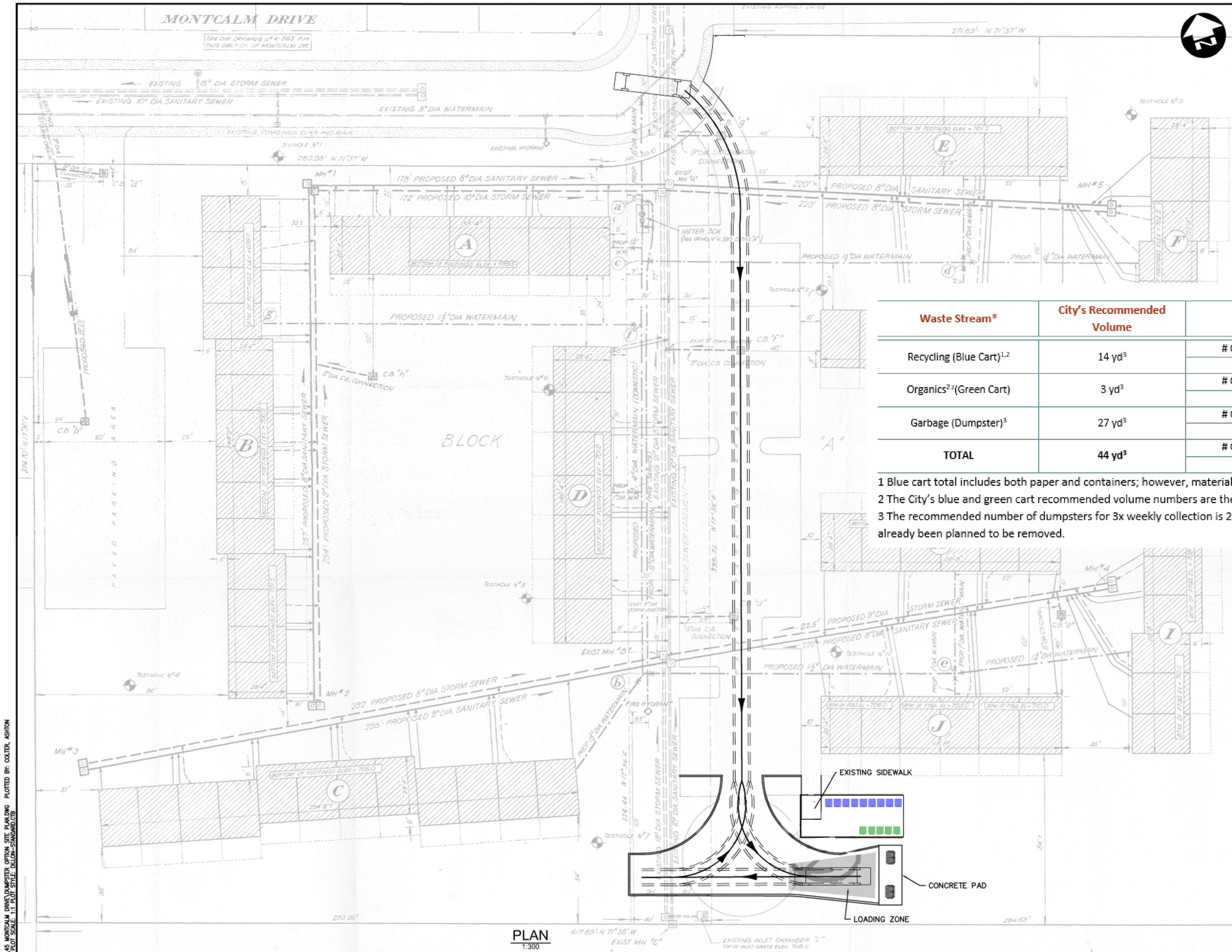
4.0 Next Steps

Based on the results of the consultation, estimated number of containers and estimated costs, it is recommended that CHH reviews both options and their recommended collection frequencies to determine which containers CHH would like to use for the waste collection area. Following selection a meeting will be set up with Dillon and CHH to discuss the options as well as next steps which includes the following:

- Confirm that the City approves the waste storage area relocation, number of containers for all streams and collection frequency to receive City servicing;
- Develop construction drawings for the waste storage area for final approval from the City;
- Tender the construction contract;
- If EarthBins are selected as the preferred container, request a quote specific for CHH;
- Develop a communication plan to tenants; and
- Develop an implementation plan and progress monitoring plan.

Appendix A

Conceptual Drawings



PLAN
1:300

LEGEND:

- TRUCK
- TRUCK ACCESS
- TRUCK PATH
- GARBAGE FRONT END CONTAINER
- RECYCLABLE MATERIAL CART
- ORGANIC MATERIAL CART

Waste Stream*	City's Recommended Volume		Weekly Collection	2x Weekly Collection	3x Weekly Collection
Recycling (Blue Cart)[1,2]	14 yd^3	# Containers	18	9	6
		Volume	14 yd^3	14 yd^3	14 yd^3
Organics[2,2](Green Cart)	3 yd^3	# Containers	10	5	5
		Volume	3 yd^3	3 yd^3	4 yd^3
Garbage (Dumpster)[3]	27 yd^3	# Containers	9	4	2
		Volume	27 yd^3	24 yd^3	18 yd^3
TOTAL	**44 yd^3**	# Containers	**37**	**18**	**14**
		Volume	**44 yd^3**	**41 yd^3**	**45 yd^3**

1 Blue cart total includes both paper and containers; however, materials must be collected separately.
2 The City's blue and green cart recommended volume numbers are the minimum.
3 The recommended number of dumpsters for 3x weekly collection is 2 based on discussions with CHH indicating that the third dumpster has already been planned to be removed.

NOTES
1. GROUND LEVEL PLAN USED BY PERMISSION FROM XX .

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
01	FOR INFORMATION	2022/01/19	ADC

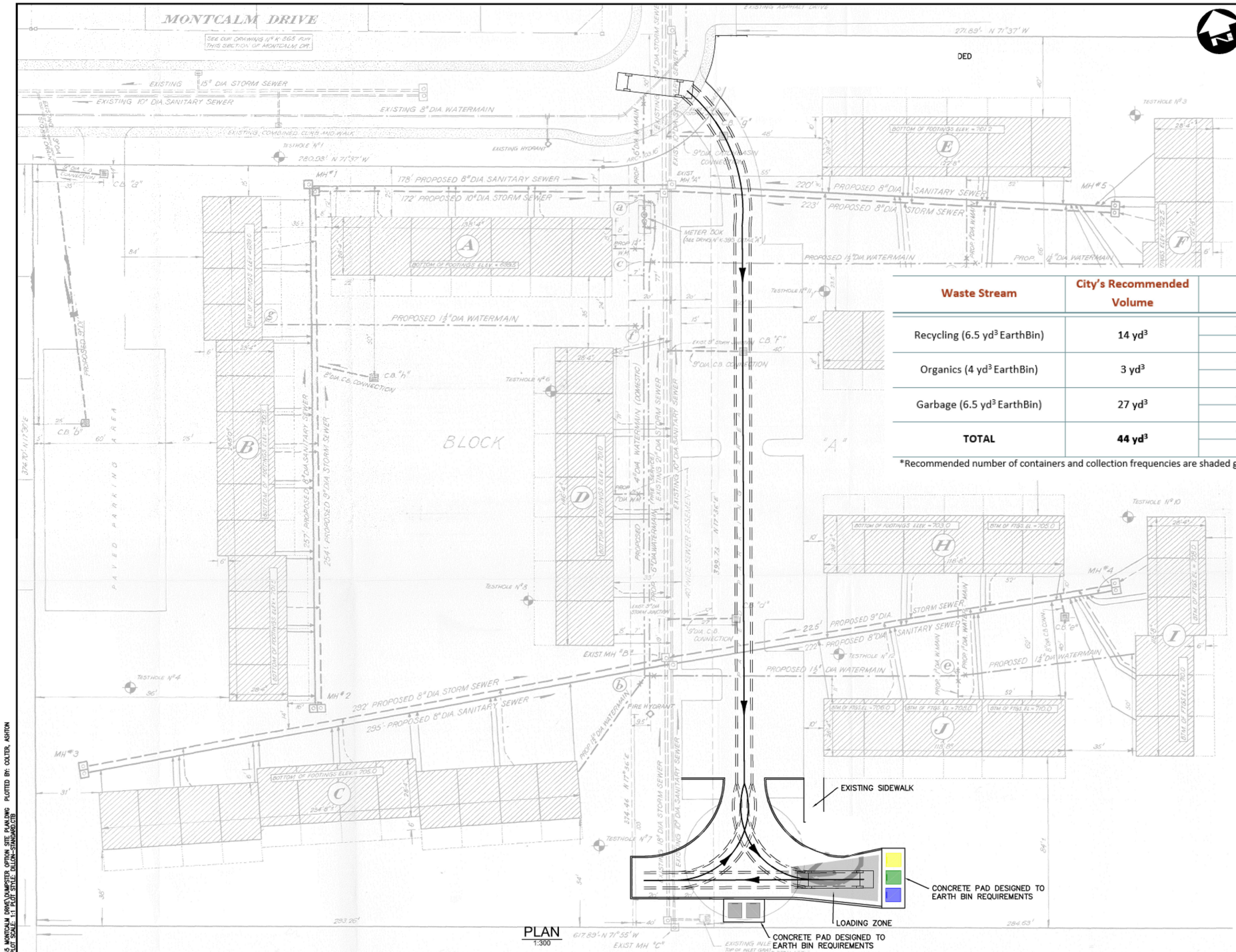
DESIGN: AK | REVIEWED BY: AK
DRAWN: ADC | CHECKED BY: AK
DATE: JANUARY 2022
SCALE: AS NOTED

ABBOTSFORD HOMES LIMITED

OPTION 1 - GARBAGE TRUCK T-TURN LOCATION 2
45 MONTCALM

PROJECT NO. 21-3173
SHEET NO. 01

FILENAME: C:\USERS\SADC\DOCUMENTS\45 MONTCALM DRIVE\DUMPSTER OPTION SITE PLAN.DWG PLOTTED BY: COLTER, ASHTON
PLOT DATE: 2022-02-03 @ 9:31:11 AM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB



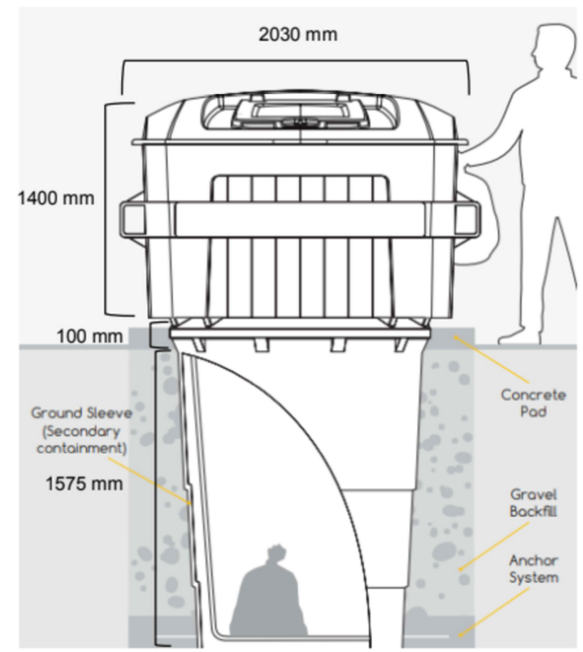
PLAN
1:300

LEGEND:

- TRUCK
- TRUCK ACCESS
- TRUCK PATH
- CARDBOARD/PAPER EARTH BIN
- RECYCLABLE EARTH BIN
- ORGANIC MATERIAL EARTH BIN
- GARBAGE EARTH BIN

Waste Stream	City's Recommended Volume		Weekly Collection	2x Weekly Collection	3x Weekly Collection
Recycling (6.5 yd³ EarthBin)	14 yd³	# Containers	2	2	2
		Volume	13 yd³	26 yd³	39 yd³
Organics (4 yd³ EarthBin)	3 yd³	# Containers	1	1	1
		Volume	4 yd³	8 yd³	12 yd³
Garbage (6.5 yd³ EarthBin)	27 yd³	# Containers	2	2	1
		Volume	13 yd³	26 yd³	39 yd³
TOTAL	**44 yd³**	# Containers	**5**	**5**	**4**
		Volume	**30 yd³**	**60 yd³**	**71 yd³**

*Recommended number of containers and collection frequencies are shaded green.



A EARTH BIN SECTION
1:20

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
01	FOR INFORMATION	2022/01/19	ADC

DESIGN: AK	REVIEWED BY: AK
DRAWN: ADC	CHECKED BY: AK
DATE: JANUARY 2022	
SCALE: AS NOTED	

ABBOTSFORD HOMES LIMITED

OPTION 2 - GARBAGE TRUCK T-TURN LOCATION 2
45 MONTCALM

PROJECT NO. 21-3173

SHEET NO. 02

FILENAME: C:\USERS\STADC\DOCUMENTS\45_MONTCALM_DRIVE\DUMPSTER_OPTION_SITE_PLAN.DWG PLOTTED BY: COLTER, ASHTON
PLOT DATE: 2022-02-03 @ 9:34:53 AM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

DILLON CONSULTING

51 Breithaupt Street
Suite 200
Kitchener, Ontario
Canada
N2H 5G5
Telephone
519.571.9833
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519.571.7424

May 25, 2022

City Housing Hamilton, City of Hamilton
181 Main Street West
Hamilton, Ontario,
L8P 4R8

Attention: Mary Tullo, Project Manager, Strategic Planning and Quality Improvement

45 Montcalm Drive – Waste Management Options Development – Scope Change 1

In 2022 City Housing Hamilton (CHH) retained Dillon Consulting Limited (Dillon) to assist with the development of long-term waste management options at 45 Montcalm Drive. Based on the results of the project, two container options were developed at one location on site (south area of the eastern parking lot). Option 1 includes a turn around and concrete pads for waste receptacles (dumpsters and carts). Option 2 also includes a turn around and concrete pads; however, the waste receptacles proposed are inground containers. At CHH's request, Dillon has provided a scope change for the next phases of the project.

Scope Change

The proposed scope change consists of five tasks:

- Task 1: Background Documents
- Task 2: Preliminary Design of Preferred Option
- Task 3: Detailed Drawings
- Task 4: Tender Preparation and Support
- Task 5: Construction Observations

Task 1: Background Documents

- Dillon will compile and review in-depth existing engineering drawings and report that are available from the City of Hamilton (City), CHH or other public databases.
- Dillon assumes that CHH will complete and/or provide a topographical survey and legal survey; however, Dillon has included as a provisional item the cost for Dillon to coordinate a sub-contractor to complete this work for CHH (Provisional Item 1).
- Based on the City's Online Map Databases, there is approximately 1 metre of elevation change and a drainage ditch with a ditch inlet catchbasin along the south fence line. The proposed design and the location of the turn-around will need to consider these existing features to ensure drainage remains positive. At this time, Dillon has included a provisional item (as mentioned above) to

coordinate with survey contractors to provide quotes to complete the work. It is expected that the surveyor will be retained by CHH.

- Dillon will discuss CHH's preference to either remove parking spaces for the turn around (to potentially not require a retaining wall) or to locate the turn around closer to the south fence line (which will likely require a retaining wall).

Task 2: Preliminary Design of Preferred Option

- Following CHH's selection of the preferred option, Dillon will meet with CHH to confirm if the conceptual design layout is acceptable and/or what changes, if any, CHH would like to make (e.g., location of the concrete pads for waste receptacles, location of turn around).
- Dillon will schedule a meeting with the City and CHH to discuss and review the conceptual design layout for CHH's preferred option. CHH will need to obtain City approval prior to Dillon completing the preliminary design.
- Following City approval of the conceptual design, Dillon will prepare a preliminary design of the preferred conceptual option based on the City's Waste *Requirements for Design of New Development and Collection* (November 2021) standard drawing for an acceptable turn around. This task will include the following:
    - Revision to the conceptual design option. The layout will show the overall footprint with dimensions.
    - Preparation of a preliminary drawing with available existing engineering drawings and available aerial photos from the City's website. This drawing will show the potential layout and site impacts/concerns for CHH's review. Based on the conceptual drawing, it is shown that there will be removal of existing parking spaces to accommodate the turn around.
    - AutoTurn software will be used to confirm if a waste collection truck can provide service and have proper site ingress/egress based on the City's Waste *Requirements for Design of New Development and Collection*.
- The preliminary design will be submitted to CHH to confirm the footprint.

Task 3: Detailed Drawings

- Upon receipt of consolidated comments on the preliminary design from CHH, Dillon will prepare detailed design drawings. The drawings will be prepared in AutoCAD software. If a survey is not completed or provided by CHH, the drawings will use existing engineering drawings and aerial photographs as the base for the proposed work shown on the drawings. The following is included in this task:

- One site visit to review existing conditions, compare existing documentation, and note any site features of consideration for the design stage.
- A detailed drawing noting the extent of removal of the existing pavement, curbs, and the impacted grassed area. Sedimentation and erosion protection details will also be shown.
- A detailed drawing noting the proposed grade changes to maintain positive drainage. Proposed grading will maintain existing drainage patterns where possible. Adjustments to the storm catchbasins and other sewer infrastructure may be required to achieve adequate drainage, noting that Dillon will attempt to locate the turn around in a location that does not require this, which may require the removal of additional parking spaces.
    - Concrete and pavement design will be based on the City's standards or as provided by CHH.
    - Based on the existing drawings used for the conceptual design of Option 1 or 2, there is an existing ditch inlet catchbasin at the south end of the property that may require relocation. Any proposed sewer infrastructure relocation will be provided on this drawing.
- Option 2 includes Earthbins which are inground waste receptacles. Earthbin provides detailed drawings on their website. Dillon will review these drawings and include in the package to CHH.

- Drawings will be stamped by a professional engineer and submitted to CHH for review. It is suggested that CHH also have the City review and provide approval.
- Dillon assumes the following:
    - Existing grading engineering drawings of the parking area are available.
    - Topographical and legal survey are excluded from Dillon's scope of work. Dillon can coordinate on behalf of CHH to retain a sub-contractor to conduct a survey as a provisional item.
    - Geotechnical investigation is excluded. If the proposed grading requires recommendations from a geotechnical consultant, this will be communicated as soon as identified. Dillon can coordinate the geotechnical consultant on behalf of CHH to retain geotechnical services as additional scope.
    - One round of revisions is included if comments are issued by the City.
    - No in-person meetings are expected in this phase.

Task 4: Tender Preparation and Support

- Dillon will assist CHH with the development of the tender documents. This includes reviewing and providing commentary to CHH-led standard sections such as: communications notice, tender notice, instructions to bidder, general

conditions, supplemental general conditions, special provisions and contract for works. Dillon will prepare the tender drawings and construction specification to support construction.

- Dillon will provide construction cost estimates of the proposed work.
- CHH will have the authority over the final version of the tender and will be responsible for issuing the tender.
- Dillon will assist CHH with a proponent's meeting following the issuing of the tender. This includes, but is not limited to, assistance with the preparation of any presentation materials.
- For budgeting purposes, we have budgeted to assist with developing responses for up to 10 addendum questions.
- Dillon will provide CHH with a scoring matrix to evaluate proponents (noting that CHH will score proponents; however, Dillon will provide technical input, if needed).
- Dillon may assist CHH during the review of submissions; however, CHH is solely responsible for final evaluation and contracting of the selected proponent.

Task 5: Construction Observation

- Dillon will provide the City with construction administration services during construction. This includes the following:
  - Responding to CHH/contractor inquiries.
  - Drawing review.
  - Site inspections:
    - Removal inspection.
    - Inspection during placement.
    - Site inspection updates.
- Dillon will provide a memo summary following the completion of the work.
- Dillon has assumed that the work will take five working days for construction observation. Additional days will be preapproved in advance by CHH and will be billed at hourly rates.
- Dillon will coordinate with CHH to provide the construction schedule such that a Dillon staff can be on site and observe the construction and installation of the turn around and waste receptacles.

Schedule

We are available to begin work immediately on this project upon your authorization to proceed. Our understanding is that the project will occur over the following milestones:

- Design: Estimated six weeks to complete following authorization to proceed.
- Tendering of repairs: Estimated six weeks to complete following design.
- Contract administration: Estimated eight weeks following tendering.

Project Team

Alida Kusch will lead the assignment on behalf of Dillon with Gary Tran, Denis Viens and Deepak Manoj providing project support. Additional technical staff will support the project.

Fees

Dillon will undertake the work described in this work plan on a time-and-materials basis in the estimated amount of $19,585, excluding applicable taxes. Provisional Item 1 (coordination of sub-contractor for topographical survey and legal survey) is estimated at $750, excluding applicable taxes.

Costs for material testing have not been included in our cost estimate as we assume that these will be covered in the contractor's costs. Additionally, we assume that all permitting will be the responsibility of the contractor.

A fee breakdown is attached. If our time exceeds the estimate, we will contact you prior to exceeding the value of our assignment. Budget will not be exceeded without prior written approval from the CHH's identified manager.

Closure

The attached work plan has been based on the terms of the City's Professional and Consulting Services Roster – Solid Waste Management (2022-2024).

Should you have any questions about our proposal, please contact Alida Kusch at 226-808-3423. We appreciate the opportunity to offer our services and look forward to continuing to assist CHH at 45 Montcalm Drive.

Sincerely,

DILLON CONSULTING LIMITED

Alida Kusch

Alida Kusch
Associate

AK:mli
Attachment(s) Fee Breakdown

Commercial Confidentiality Statement
This document contains trade secrets or scientific, technical, commercial, financial and labour or employee relations information which is considered to be confidential to Dillon Consulting Limited ("Dillon"). Dillon does not consent to the disclosure of this information to any third party or person not in your employ. Additionally, you should not disclose such confidential information to anyone in your organization except on a "need-to-know" basis and after such individual has agreed to maintain the confidentiality of the information and with the understanding that you remain responsible for the maintenance of such confidentiality by people within your organization. If the head or any other party within any government institution intends to disclose this information, or any part thereof, then Dillon requires that it first be notified of that intention. Such notice should be addressed to: Dillon Consulting Limited, 235 Yorkland Boulevard, Suite 800, Toronto, Ontario M2J 4Y8, Attention: President.

Proposed Consulting Services Budget

		Alida Kusch	Gary Tran	Denis Viens	Deepak Manoj	Construction Observer	Technical Support (GIS/CAD)	Julia Durrer	Subtotal Hours	Subtotal Fees	Total
		Project Manager	Intermediate Professional	Senior Review	Junior Professional			Project Administrator			
	Standard Billing Rate	$ 165.00	$ 150.00	$ 190.00	$ 120.00	$ 110.00	$ 105.00	$ 95.00			
	Project Management	4.0						4.0	8.0	$ 1,040.00	$ 1,040.00
1	Task 1 - Background Documents	2.0	2.0		4.0		1.0		9.0	$ 1,215.00	$ 1,215.00
2	Task 2 - Preliminary Drawings	2.0	2.0	1.0	7.0		3.0		15.0	$ 1,975.00	$ 1,975.00
3	Task 3 - Detailed Drawing Preparation	1.0	8.0	2.0	25.0		3.0		39.0	$ 5,060.00	$ 5,060.00
4	Task 4 - Tendering and Tendering Supporting	10.0	7.0	1.0	10.0				28.0	$ 4,090.00	$ 4,090.00
5	Task 5 - Construction Observation	4.0	7.0			40.0		1.0	52.0	$ 6,205.00	$ 6,205.00
HOURS		23.0	26.0	4.0	46.0	40.0	7.0	5.0	151.0		
FEES		$ 3,795.00	$ 3,900.00	$ 760.00	$ 5,520.00	$ 4,400.00	$ 735.00	$ 475.00		$ 19,585.00	$ 19,585.00
											$ -
										TOTAL	$ 19,585.00

Notes: