



# UPDATED ANALYSIS 2022 / 2023 LEAF SEASON: LEAF COLLECTION PROGRAM ALTERNATIVES

May 8, 2023

# Leaf and Mulch Analysis History

Date	Item
July 11, 2022	<b>Town Council directs DPW to eliminate mulching and use most efficient and cost effective combination of Town and rental trucks.</b>
May 16, 2022	Town Council directs DPW to complete a leaf mulch user survey.
April 18, 2022	Conference Session to discuss Leaf Collection and Mulch Program Alternatives.
March 21, 2022	Public Hearing regarding Leaf Mulch Program Alternatives.
February 7, 2022	Town Council sets public hearing for March 21, 2022.
April 19, 2021	Conference Session to discuss Leaf Collection and Mulch Program Alternatives including actual data and cost from 2020 / 2021 leaf season.
October 19, 2020	Conference Session to discuss Leaf Collection and Mulch Program Alternatives including presentation of NewGen Evaluation.

# 2022 / 2023 Leaf Season

- ❑ Leaf collection occurred (3 town-wide passes) October 24, 2022 to January 11, 2023.
- ❑ Leaf disposal at Prince William County “Freestate Farms” occurred November 28, 2022 to February 17, 2023.

Year	Volume Collected (Cubic Yards)
2019 / 2020	8,925
2020 / 2021	7,427
2021 / 2022	6,916
<b>2022 / 2023</b>	<b>8,977</b>



Leaves are vacuumed into a tandem dump truck

# 2022 / 2023 Leaf Season

- ❑ DPW utilized three rental trucks to assist with two weeks of leaf operations.
- ❑ Week 1: November 28, 2022 to December 2, 2022
  - ❑ Long haul from southside of Town
- ❑ Week 2: December 5, 2022 to December 9, 2022
  - ❑ Short haul from Beulah Road Property
- ❑ Town crews completed short haul from Beulah Road Property

Method	Disposal Weight (tons)	Disposal Volume (cubic yards)	Number of Trips to Disposal Facility	Percent of Total Weight
Rental Trucks Long-Haul	112	643	38	7%
Rental Trucks Short-Haul	279	1,592	59	18%
Town Crews Short-Haul	1,180	6,742	266	75%
<b>TOTAL</b>	<b>1,571</b>	<b>8,977</b>	<b>363</b>	<b>100%</b>

# Updated Analysis Assumptions

Item	Value – July 2022	Value – May 2023 <sup>1</sup>
Leaf disposal cost	\$35.00 /ton	\$35.00 /ton
Leaf Capacity of Rental Tandem Truck Short Haul	25 cubic yards /truck	25 cubic yards /truck
<b>Leaf Capacity of Rental Tandem Truck Long Haul</b>	<b>25 cubic yards /truck</b>	<b>17 cubic yards /truck<sup>2</sup> (32% decrease)</b>
Leaf Capacity of ToV Tandem Truck Short Haul	21 cubic yards /truck	21 cubic yards/truck
<b>Leaf Capacity of ToV Tandem Truck Long Haul</b>	<b>21 cubic yards /truck</b>	<b>14 cubic yards /truck<sup>2</sup> (32% decrease)</b>
<b>Hourly cost Tandem Truck rental</b>	<b>\$82.81 /hour</b>	<b>\$105 /hour (27% increase)</b>
Peak Collection Total Trip Time Long Haul (Rental)	90 minutes loading (1.5 hours) 120 minutes transport (2 hours)	90 minutes loading (1.5 hours) 120 minutes transport (2 hours)

<sup>1</sup> Based on 2022 / 2023 pilot program.

<sup>2</sup> Based on rental truck capacity loaded with leaf vacuum

# Option 1 – Mulching Operations

- ❑ Mulch service provided. Continues use of Beulah Road site.



Item	Approximate Cost <sup>1</sup> (July 2022)	Approximate Cost <sup>1, 2</sup> (May 2023)
Collect leaves and bring to Beulah Road site	\$299,000	\$299,000
Leaf grinding	\$13,000	\$13,000
Mulch delivery	\$101,000	\$101,000
Unground leaf delivery	\$47,000	\$47,000
Unground leaf disposal fee	\$30,000	\$30,000
<b>TOTAL</b>	<b>\$490,000</b>	<b>\$490,000</b>

<sup>1</sup> Cost includes vehicles/equipment operation, maintenance, staffing, vendors and fees.

<sup>2</sup> July 2022 approximate cost used actual leaf collection data. No change in assumptions for May 2023 analysis.

# Option 2 – Short Haul

- ❑ Mulch service not provided. Continues use of Beulah Road site.



Item	Approximate Cost <sup>1</sup> (July 2022)	Approximate Cost <sup>1, 2</sup> (May 2023)
Collect leaves and bring to Beulah Road site	\$299,000	\$299,000
Leaf grinding	N/A	N/A
Mulch delivery	N/A	N/A
Unground leaf delivery	\$71,000	\$71,000
Unground leaf disposal fee	\$45,000	\$45,000
<b>TOTAL</b>	<b>\$415,000</b>	<b>\$415,000</b>

<sup>1</sup> Cost includes vehicles/equipment operation, maintenance, staffing, vendors and fees.

<sup>2</sup> July 2022 approximate cost used actual leaf collection data. No change in assumptions for May 2023 analysis.

# Option 3 – Long Haul

- ❑ Mulch service not provided. Eliminates use of Beulah Road site.



Item	Approximate Cost <sup>1</sup> (July 2022)	Approximate Cost <sup>1, 2</sup> (May 2023)
Collect leaves and bring to Disposal Facility	\$300,000	\$451,000
Tandem truck rental	\$48,000	\$92,000
Leaf grinding	N/A	N/A
Mulch delivery	N/A	N/A
Unground leaf disposal fee	\$45,000	\$45,000
<b>TOTAL</b>	<b>\$393,000</b>	<b>\$588,000</b>

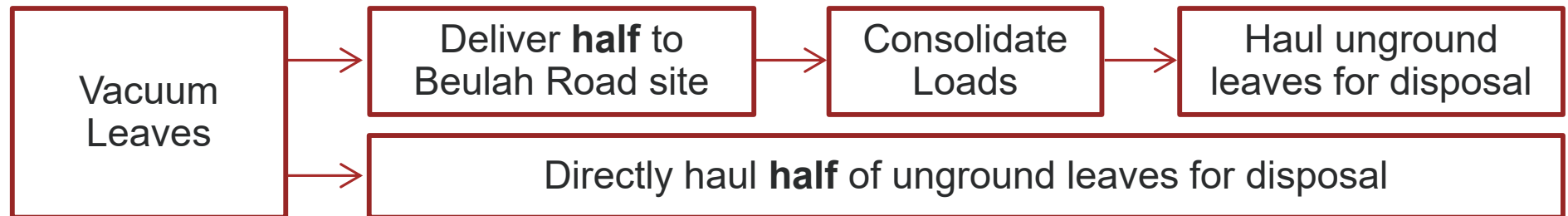
<sup>1</sup> Cost includes vehicles/equipment operation, maintenance, staffing, vendors and fees.

<sup>2</sup> Updated assumptions based on 1-week long haul pilot program.



# Option 4 – Long Haul with limited Short Haul Operations

- ❑ Mulch service not provided. Continues use of Beulah Road site.



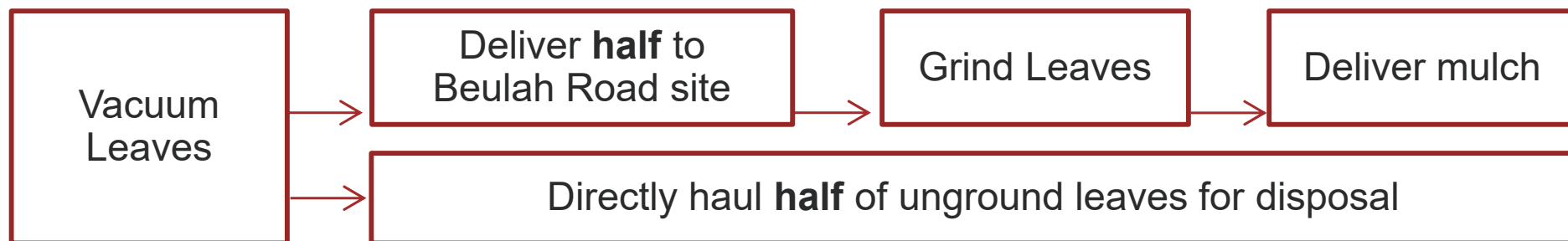
Item	Approximate Cost <sup>1</sup> (July 2022)	Approximate Cost <sup>1, 2</sup> (May 2023)
Collect leaves and bring to Beulah Road site (Short Haul)	\$149,000	\$149,000
Unground leaf delivery from Beulah Road site to Disposal Facility (Short Haul)	\$35,000	\$35,000
Collect leaves and bring to Disposal Facility (Long Haul)	\$150,000	<b>\$226,000</b>
Tandem truck rental	\$25,000	<b>\$38,000</b>
Unground leaf disposal fee	\$45,000	\$45,000
<b>TOTAL</b>	<b>\$404,000</b>	<b>\$493,000</b>

<sup>1</sup> Cost includes vehicles/equipment operation, maintenance, staffing, vendors and fees.

<sup>2</sup> Updated assumptions based on 1-week long haul pilot program.

# Option 5 – Long Haul with Mulching

- ❑ Mulch service provided. Continues use of Beulah Road site.



Item	Approximate Cost <sup>1</sup> (July 2022)	Approximate Cost <sup>1, 2</sup> (May 2023)
Collect leaves and bring to Beulah Rd site (Short Haul)	\$149,000	\$149,000
Unground leaf delivery from Beulah Rd site to Disposal Facility (Short Haul)	N/A	N/A
Collect leaves and bring to Disposal Facility (Long Haul)	\$150,000	<b>\$226,000</b>
Tandem truck rental	\$25,000	<b>\$38,000</b>
Unground leaf disposal fee	\$30,000	\$30,000
Leaf grinding	\$13,000	\$13,000
Mulch delivery	\$101,000	\$101,000
<b>TOTAL</b>	<b>\$468,000</b>	<b>\$557,000</b>

<sup>1</sup> Cost includes vehicles/equipment operation, maintenance, staffing, vendors and fees.

# Summary

Options	Total Program Cost* (July 2022)	Total Program Cost* (May 2023)	Payment to vendors (July 2022)	Payment to vendors (May 2023)
Option 1 Mulching Operations	\$490,000	<b>\$490,000</b>	\$43,000 (leaf grinding and disposal)	<b>\$43,000</b> (leaf grinding and disposal)
Option 2 Short Haul	\$415,000	<b>\$415,000</b>	\$45,000 (disposal)	<b>\$45,000</b> (disposal)
Option 3 Long Haul	\$393,000	<b>\$588,000</b>	\$93,000 (truck rental and disposal)	<b>\$137,000</b> (truck rental and disposal)
Option 4 Long Haul with limited Short Haul Operations	\$404,000	<b>\$493,000</b>	\$70,000 (truck rental and disposal)	<b>\$83,000</b> (truck rental and disposal)
Option 5 Long Haul with Mulching	\$468,000	<b>\$557,000</b>	\$68,000 (leaf grinding, truck rental, and disposal)	<b>\$81,000</b> (leaf grinding, truck rental, and disposal)

\* TOTAL PROGRAM COST includes vehicles/equipment operation, maintenance, staffing, payment to vendors and fees. *Reductions do not result in budgetary savings because vehicle, equipment, and employee resources will be reallocated to support other operations.*