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March 24, 2025

Our Reference
60733014

Jeff McMunn
Sanitation Superintendent
City of Iqaluit
P.O. Box 460
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2025 Waste Generation and West 40 Landfill Airspace Projections

Dear Jeff:

AECOM Canada ULC (AECOM) was contracted by the City of Iqaluit (the City) to complete an aerial survey and comparison of airspace consumed at the West 40 Landfill since the 2024 survey. The 2024/2025 survey of the West 40 Landfill was completed July 12, 2025, by Arctic UAV Inc. (Arctic UAV) and the following data presents the findings of this survey and airspace projections.

The airspace consumption for 2024/2025 compares the waste surface from the August 14, 2024 survey to the waste surface from the July 12, 2025 survey, and includes deposited waste and cover soil placement. The volume consumed between the survey dates is 13,671 cubic metres (m^3).

In 2024, AECOM developed a revised fill plan and a new top of waste design. This revision was the result of the following:

- To provide disposal airspace that does not include the scrap metal area (south area) and the area around the Sprung Structure
- The delay in construction and commissioning of the new Waste Transfer Station until the year 2027

The remaining landfill airspace for this analysis accounts for two fill scenarios:

- Fill only in the area identified as Area A (excludes Sprung Structure area), comparing the 2025 survey to the proposed top of waste design developed in 2024 to provide airspace until 2027.
- Fill in Area A plus the fill in Area B (includes Sprung Structure area), comparing the 2025 survey to the combined Area A and Area B top of waste design.

We do not anticipate any change in 2025 fill plan based upon most recent analysis.

Airspace Consumption

1. Based on the top of waste surfaces (Aug 14, 2024, survey – July 12, 2025, survey):
    - Total Airspace consumed (north active area): 13,671 m^3
    - Time Span:
        - 47 weeks
        - 11 months
        - 237 weekdays (based on the 5 day work week)
    - Average Airspace consumed:
        - 288.2 m^3 per week
        - 1243 m^3 per month
        - 57.6 m^3 per workday

It is understood that the Landfill received a considerable amount of demolition debris from several houses being demolished. This consumed a significant amount of airspace compared to prior years as provided in the following **Table 1**.

Table 1 compares the results of the surveys conducted from 2017 to 2025. A three-year rolling average is provided for airspace consumption estimates. Please note that an average for three survey events was calculated between October 2, 2017, and October 7, 2019.

Table 1 – Annual Surveys and Airspace Consumed

Survey Events	Airspace Consumed m^3	Average m^3 per workday	Average m^3 per week	Average m^3 per month	Average m^3 per year	Rolling 3yr Average m^3 per year
Oct 2, 2017 to July 26, 2018	11,265	43	262	1,135	13,620	
July 26, 2018 to Oct. 22, 2018	5,323	72	409	1,774	21,288	
Oct 22, 2018 to Oct 07, 2019	17,679*	71	353	1,537	18,444	17,784
Oct 07, 2019 to Aug. 17, 2020	15,720	69	349	1,526	18,312	19,348
Aug 17, 2020 to July 17, 2021	11,651	49	243	1,031	12,372	16,376
July 17, 2021 to June 20, 2022	16,059	68	342	1,460	17,520	16,068
June 20, 2022 to July 6, 2023	14,866	60	297	1,239	14,866	14,919
July 06, 2023 – August 14, 2024	30,766	106	632	2,367	27,727	20,038
August 14,2024 to July 12,2025	13,671	58	288	1243	15,030	19208
AVERAGE		66	353	1,479	17,687	17,677

Landfill Airspace

The attached figures detail the landfill surveys from 2024 and 2025. Figure 2 and Figure 3 show the plan view from the 2024 and 2025 aerial surveys. Figure 4 details the design top of waste surface. Figure 5 through Figure 7 shows the cross sections from the plan view figures.

Based on the 2025 survey, the landfill has an estimated effective waste disposal capacity of 46,422 m^3 as of July 2025, for the portion of the landfill identified as Area A. Adding in Area B, which requires the removal of the building, the landfill has a total of 75,721 m^3 of airspace available. Note that we have excluded any airspace available in the scrap metal area and have assumed that any overfill will not be relocated.

Please note that for this report, the estimated effective waste disposal capacity of Area A has a net airspace reduction of 4,389 m^3. This adjustment has been made for an area of the landfill noted in the plan view that is expected to not be suitable for waste tipping given the steep slope of the existing top of waste towards the Landfill extent abutting the public road. See cross-section “D” for impacted air space. The practicality of accessing this airspace can be discussed.

With respect to the current scrap metal disposal area, it is understood that the City has recently obtained an RB6000 metal crusher that can be employed to bale a large portion of the stored scrap metal. Baling the metal for off-site transfer can potentially add more airspace to the Landfill which could be used as an emergency disposal area in the event of a disposal constraint at the new balefill facility. This expansion

would be subject to permitting by regulatory authorities. They have New Bailer is yet not in operating condition to remove metal, approx. 2000 m^3 bailer needs to be removed by this November.

Based on the 2024/5 average airspace consumption of 57.6 m^3/day, and assuming a similar quantity of waste will dispose with projected housing demolition projects, it is estimated an additional 7041 m^3 of airspace will be consumed by December 30, 2025. It is further estimated there will be 39,381 m^3 of airspace remaining in Area A at the end of 2025, and 68,680 m^3 remaining in the combined Area A and Area B of the Landfill.

Using the 2025 generation and the three-year rolling average waste generation, the estimated years remaining is as provided in **Table 2**.

Table 2 – Estimated Landfill Lifespan Years Remaining

Airspace Projection Basis Years Remaining	Area A (Estimated Years Remaining)	Area A & B (Estimated Years Remaining)
Year Rolling Average	2.1	3.6
2025 Average	2.6	4.6

If the waste generation in 2025/26 is the same or greater than the 2025 consumption, the Landfill is projected to run out of airspace near the end of 2027, if only Area A is used. If both Area A and Area B are utilized, their appears to be sufficient capacity to landfill until 2028 using the 2025 top of waste design.

Yours sincerely,
AECOM Canada Ltd.

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Reviewed by

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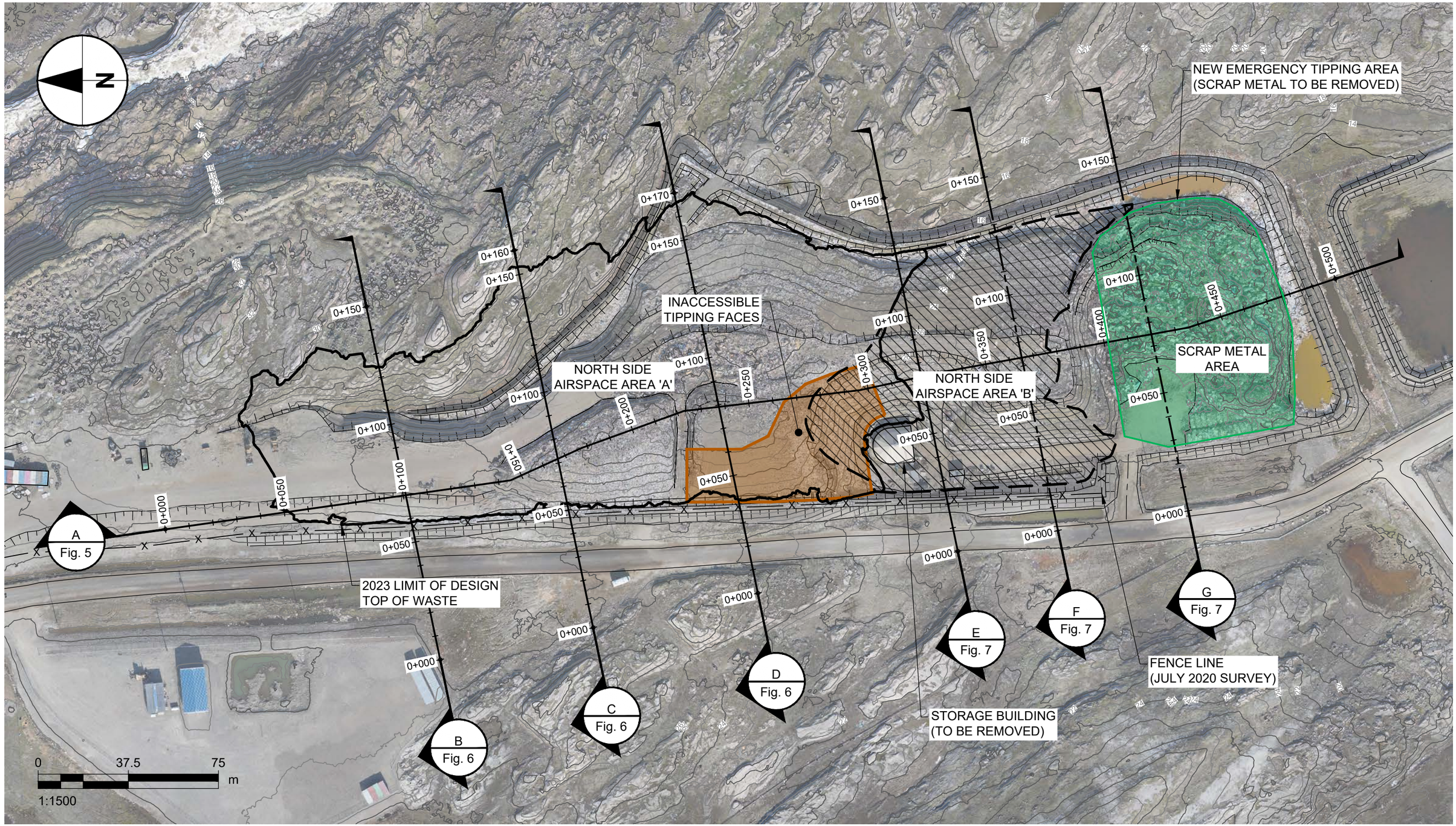
Attachments: Figures



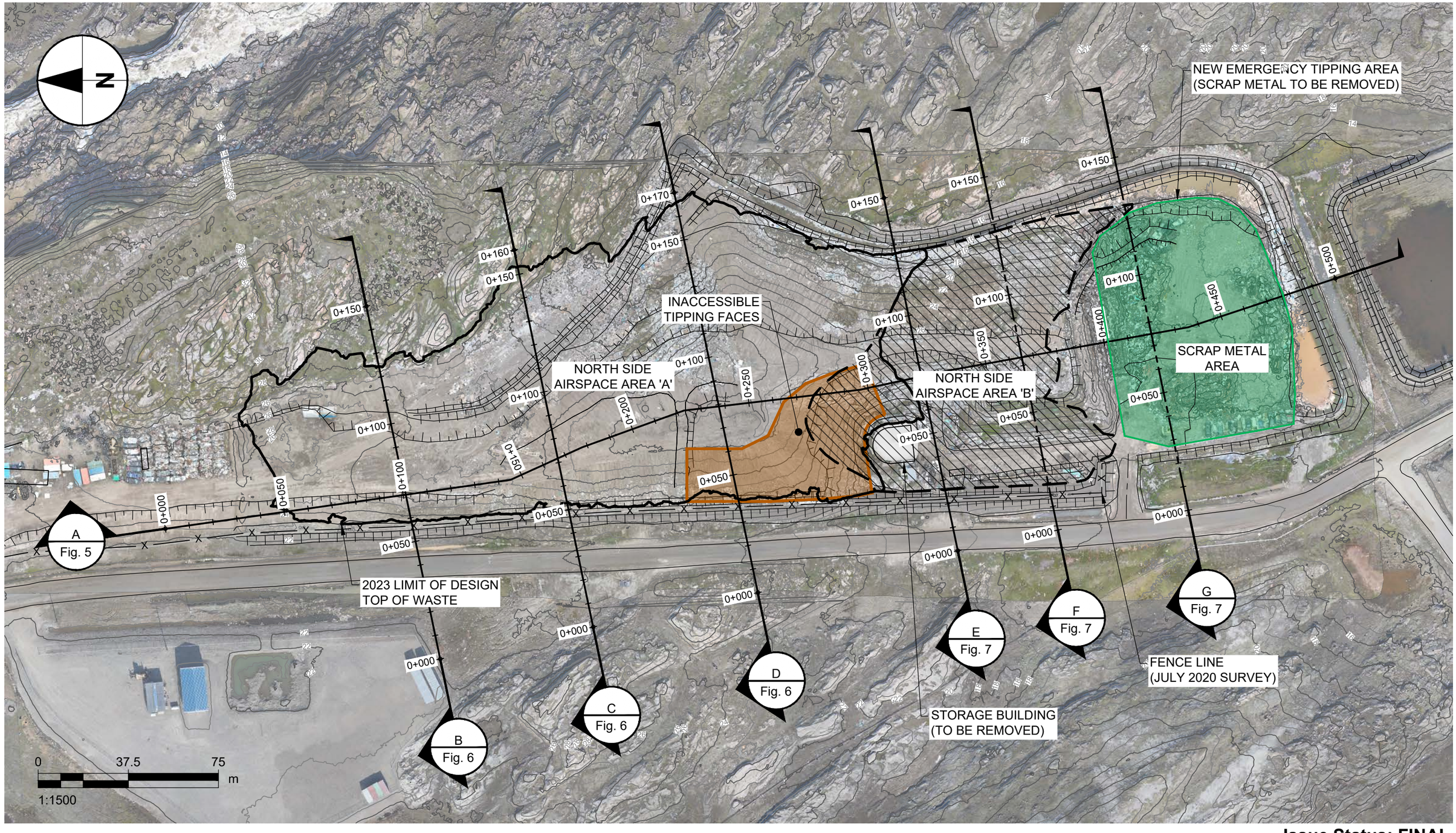
Issue Status: FINAL

Iqaluit West 40 Landfill
2025 West 40 Landfill Airspace
City of Iqaluit, Nunavut
Project No.: 60733014 Date: 2025-09-24

Iqaluit West 40 Landfill
July 6, 2023 Survey Conditions
Plan

AECOM

Figure: 1



Issue Status: FINAL

Iqaluit West 40 Landfill
2025 West 40 Landfill Airspace
City of Iqaluit, Nunavut
Project No.: 60733014 Date: 2025-09-24

Iqaluit West 40 Landfill
August 14, 2024 Survey Conditions
Plan

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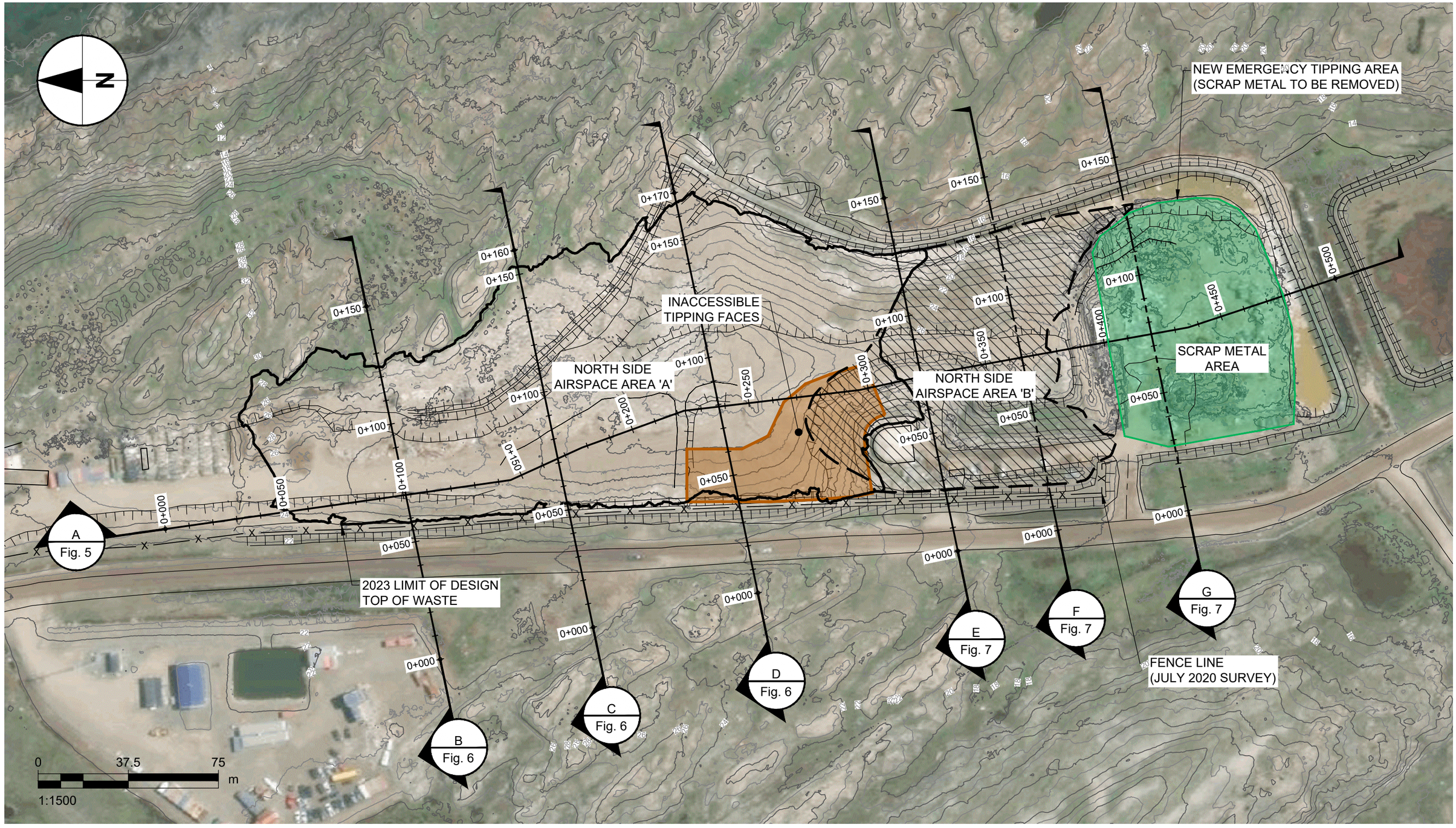
Figure: 2



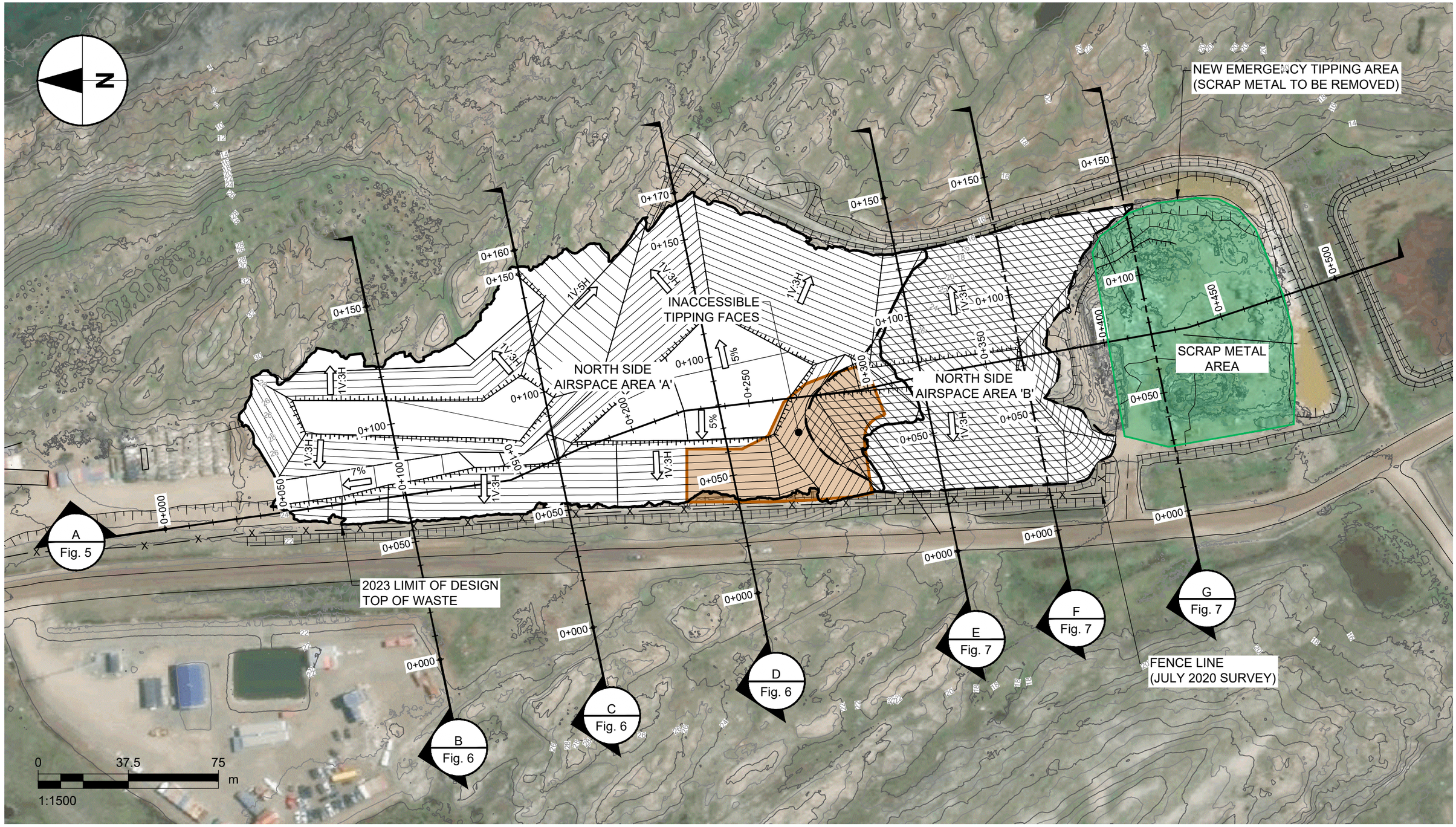
Issue Status: FINAL

Iqaluit West 40 Landfill
2025 West 40 Landfill Airspace
City of Iqaluit, Nunavut
Project No.: 60733014 Date: 2025-09-24

Iqaluit West 40 Landfill
July 12, 2025 Survey Conditions
Plan

AECOM

Figure: 3



Issue Status: FINAL

Iqaluit West 40 Landfill
2025 West 40 Landfill Airspace
City of Iqaluit, Nunavut
Project No.: 60733014 Date: 2025-09-25

Iqaluit West 40 Landfill
Design Top of Waste
Plan

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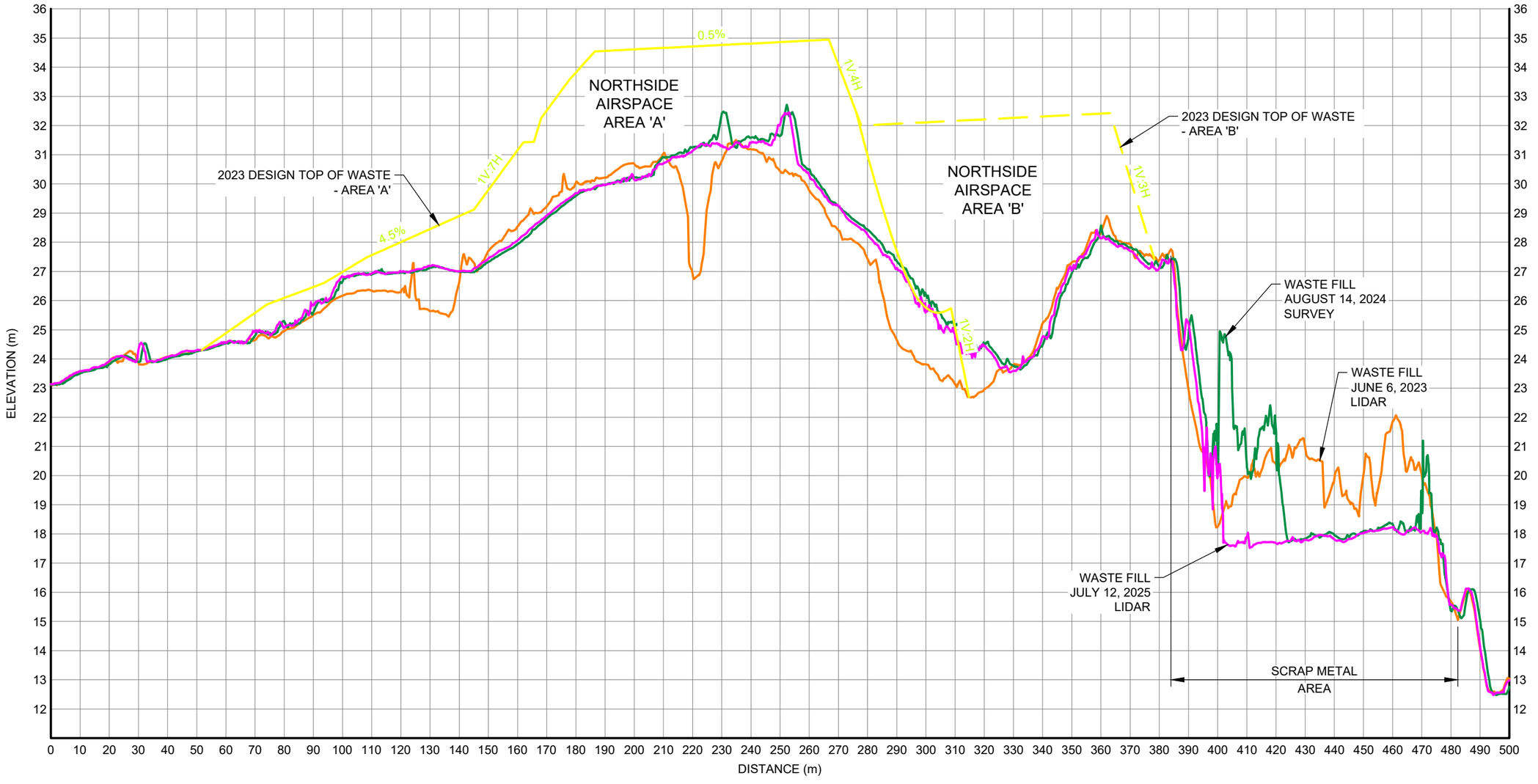
Figure: 4



A SECTION

Fig. 1 Fig. 2
Fig. 3 Fig. 4

0 37.5 75 m
0 3.75 7.5
H=1:1500
V=1:150

SURVEY DATE	NORTH SIDE AIRSPACE CONSUMED AREA 'A' (m^3)	NORTH SIDE AIRSPACE CONSUMED AREA 'B' (m^3)	NORTH SIDE AIRSPACE REMAINING AREA 'A' (m^3)	NORTH SIDE AIRSPACE REMAINING AREA 'B' (m^3)	NORTH SIDE AIRSPACE REMAINING AREA 'A' AND 'B' (m^3)
July 06, 2023	14,866	14,866	94,904	29,511	124,415
August 14, 2024	30,766	-169 NOTE 1	64,653 (60,264) NOTE 2	29,786	94,379
July 12, 2025	13,258	413	50,811 (46,422) NOTE 2	29,299	80,109

NOTE:
1. AIRSPACE CONSUMED IN NORTH AREA 'B' IS NEGATIVE DUE TO A NET SETTLEMENT OR REMOVAL OF WASTE. 931 m^3 OF WASTE REMOVED, 762 m^3 OF WASTE ADDED.
2. NORTH SIDE AREA 'A' AIRSPACE LOST IN THE INACCESSIBLE TIPPING FACE AREA IS 4,389 m^3. AREA MAY NOW BE ACCESSIBLE.

Issue Status: FINAL

Iqaluit West 40 Landfill
2025 West 40 Landfill Airspace
City of Iqaluit, Nunavut
Project No.: 60733014 Date: 2025-09-25

Iqaluit West 40 Landfill
Section A

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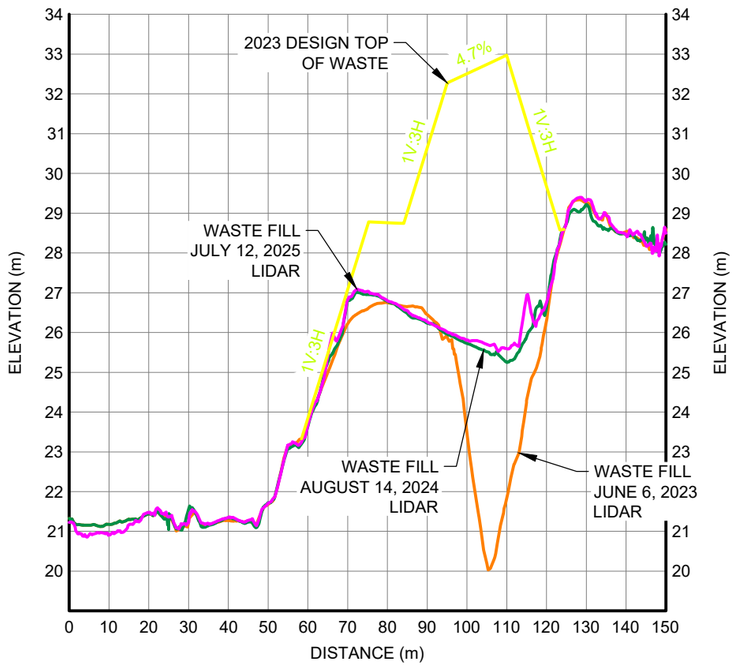
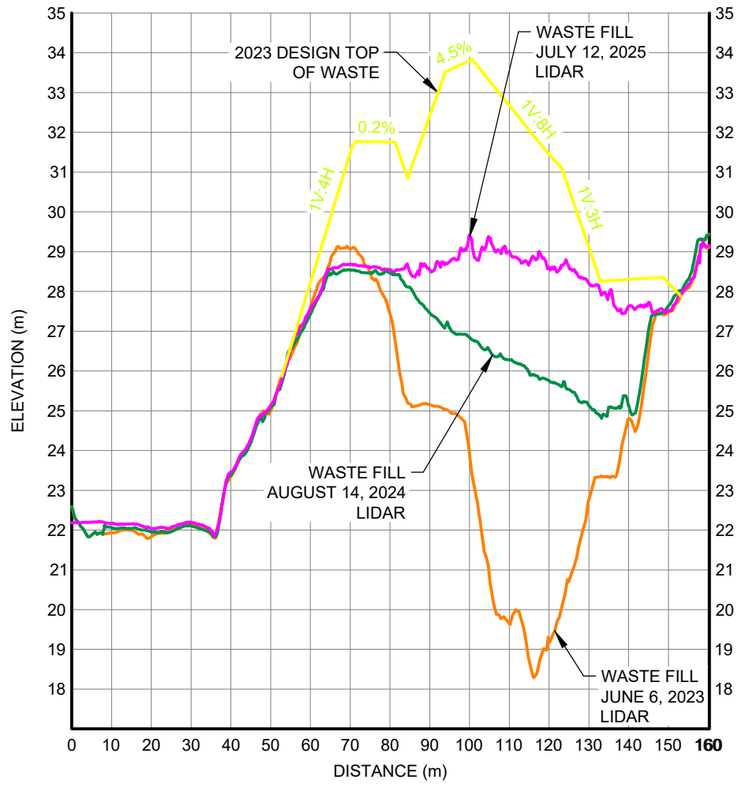
Figure: 5



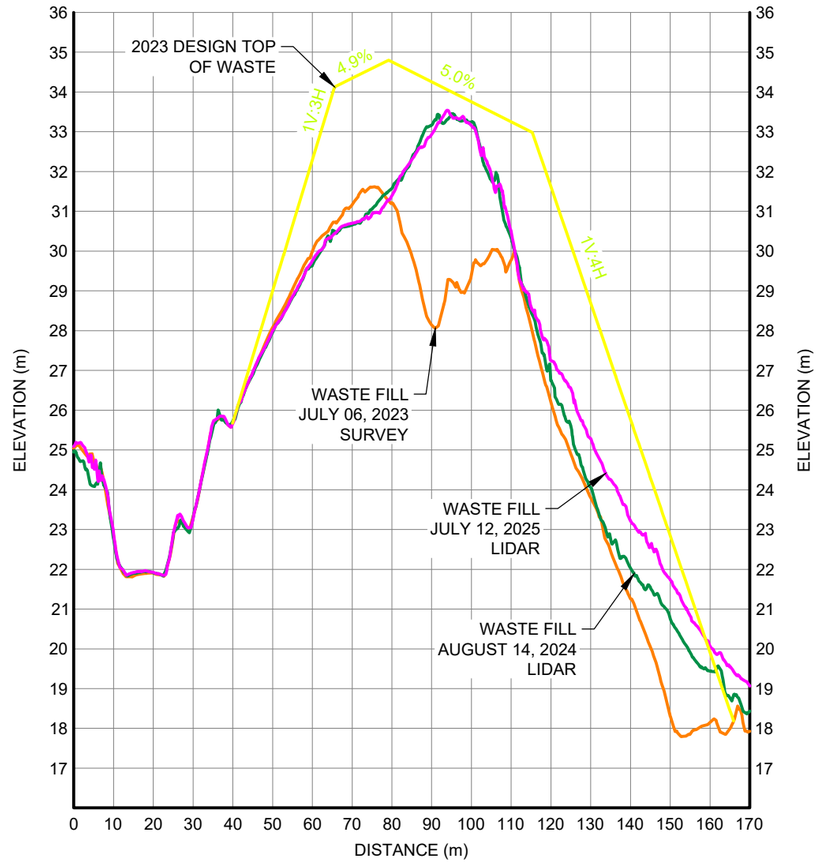
B | SECTION

Fig. 1 Fig. 2
Fig. 3 Fig. 4



C | SECTION

Fig. 1 Fig. 2
Fig. 3 Fig. 4



D | SECTION

Fig. 1
Fig. 2
Fig. 3
Fig. 4

0 37.5 75 m H=1:1500 V=1:150
0 3.75 7.5

Issue Status: FINAL

Iqaluit West 40 Landfill
2025 West 40 Landfill Airspace
City of Iqaluit, Nunavut
Project No.: 60733014 Date: 2025-09-25

Iqaluit West 40 Landfill
Sections B, C and D

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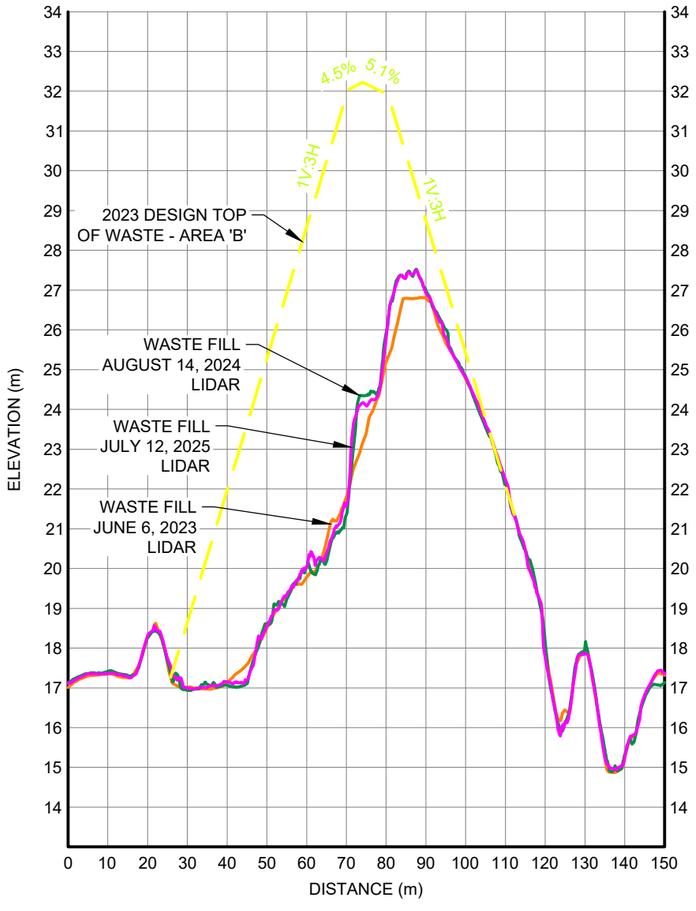
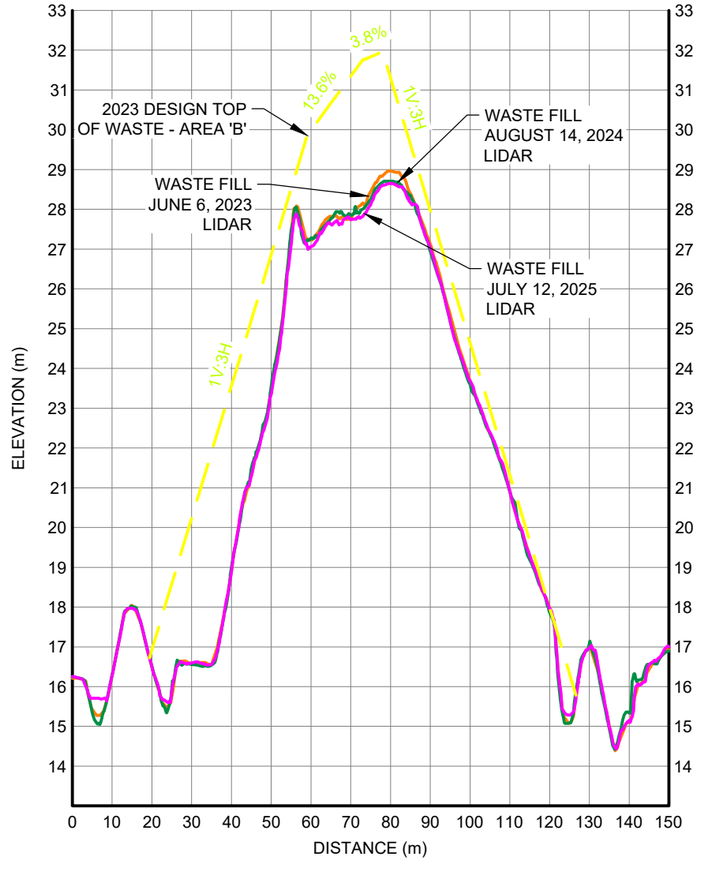
Figure: 6



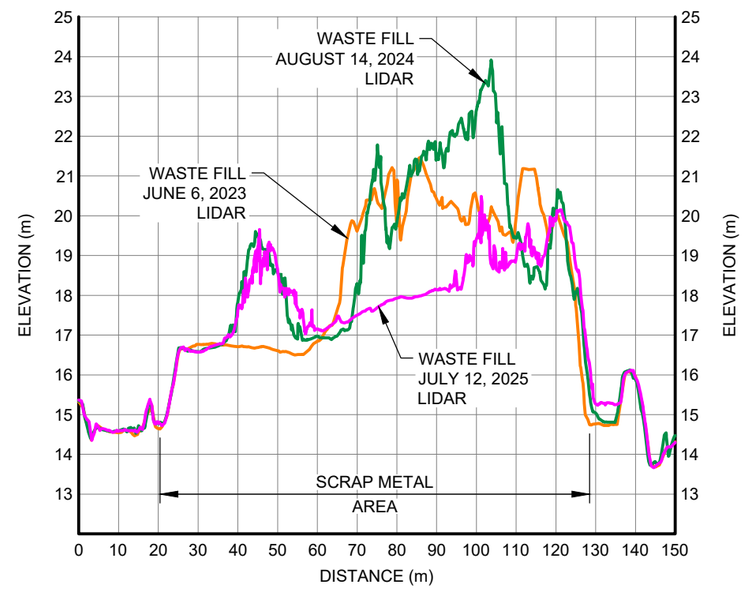
E | SECTION

Fig. 1 Fig. 2
Fig. 3 Fig. 4



F | SECTION

Fig. 1 Fig. 2
Fig. 3 Fig. 4



G | SECTION

Fig. 1 Fig. 2
Fig. 3 Fig. 4

Issue Status: FINAL

Iqaluit West 40 Landfill
2025 West 40 Landfill Airspace
City of Iqaluit, Nunavut
Project No.: 60733014 Date: 2025-09-25

Iqaluit West 40 Landfill
Sections E, F and G

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Figure: 7