

# Norwegian Athletic Federation

Ullevaal stadion

Sognsveien 75 J

0840 Oslo

NORWAY

E-mail: [friidrett@friidrett.no](mailto:friidrett@friidrett.no)

Phone: +47 94 83 33 26



## COURSE MEASUREMENT REPORT

### - REPORT FOR NATIONAL CERTIFIED COURSE -

| INFORMATION ABOUT EVENT AND COURSE                               |  |
|--|--|
| <b>Event:</b>  | Drammen halvmaraton  |
| <b>Technical Organiser:</b>                                      | Sturla Friidrett   |
| <b>City/Place:</b>   | Drammen, Norway  |
| <b>Date of Arrangement:</b>                                      | 08.09.2024   |
| <b>Date and time for measurement:</b>                            | 25.08.2024   |
| <b>Measured distance(s):</b>                                     | Half Marathon, 21.097,5m   |
| <b>Length of calibration course:</b>                             | 400m   |
| <b>Terrain:</b>  | Flat <input checked="" type="checkbox"/> Slightly hilly <input type="checkbox"/> Hilly <input type="checkbox"/> Terrain <input type="checkbox"/>       |
| <b>Type of course route:</b>                                     | Closed loop <input checked="" type="checkbox"/> Back and forth <input type="checkbox"/> A to B <input type="checkbox"/> Other <input type="checkbox"/> |
| <b>Race surface:</b>   | tarmac roads   |
| <b>Elevation Start - Finish:</b>                                 | 3m – 3m MSL  |
| <b>Description of start:</b>                                     | At the edge of the second manhold cover in Schwartz gate towards Knoffs gate, alongside Drammenshallen.  |
| <b>Description of finish:</b>                                    | At the official 100m startline at Marienlyst Stadion Friidrettsbane towards Bjørnstjerne Bjørnsons gate.   |
| <b>Distance, in a straight line, between start &amp; finish:</b> | 175m   |
| <b>Start and Finish marked:</b>                                  | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  |
| <b>Km-markings:</b>  | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>  |
| <b>Measurement direction:</b>                                    | Running direction <input checked="" type="checkbox"/> Opposite running direction <input type="checkbox"/>  |
| <b>National record can be approved:</b>                          | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  |

| CONTACT INFORMATION    |                          |                   |
|------------------------|--------------------------|-------------------|
|                        | <b>Measured by:</b>      | <b>Organizer:</b> |
| <b>Contact person:</b> | Samuel Hafsahl           | André Hjorteseth  |
| <b>Phone:</b>          | +47 970 46 905           | +47 400 03 122    |
| <b>Email:</b>          | samuel.hafsahl@gmail.com | andre@rundrm.no   |

It is hereby confirmed that the course has been measured by a nationally certified course measurer from Norwegian Athletics. The course is measured in accordance with Norwegian athletics regulations, and the distance(s) has the correct length(s). The survey is valid for 5 years, except if the route is changed.

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12.04.2023 Samuel Hafsaahl

Date

Signature by Course measurer

Date

Signature by NFIF

## CALIBRATION COURSE AND PROCEDURE

|   |                            |
|---|----------------------------|
| Length of measuring tape (steel measuring tape only)                                | 50m                        |
| Length of calibration course 1st measurement  | 400m                       |
| Length of calibration course 2nd measurement  | 400m                       |
| Possible 3rd measure (max. 1 cm diff per 100m 1 <sup>st</sup> and 2 <sup>nd</sup> ) |                            |
| Date and time for measurement   | Measured by Jan Schjetlein |
| Average of measurements before adjustments  | 400m                       |
| Temperature (road or measuring tape)  | 20                         |
| Adjustment cf. $D-(D*(1+(temp-20)*0,0000115))$                                      | 1                          |
| Measured calibration distance after adjustment                                      | 300m                       |
| Distance from start/finish to calibration distance                                  | 5,5km                      |

## CALIBRATION INFORMATION - (max 8 counts difference of 1000 m between 4 measurements, ie 2 counts of 300m and 3 count of 400m)

|             | Pre-measurement:                |           |         | Post measurement:               |          |         |
|-------------|---------------------------------|-----------|---------|---------------------------------|----------|---------|
|             | Date and Time: 25.08.2024 20:00 |           |         | Date and Time: 25.08.2024 23:00 |          |         |
|             | Start                           | End       | Diff.   | Start                           | End      | Diff.   |
| 1st measure | 88 789,0                        | 93 439,5  | 4 650,5 | 37 466,0                        | 42 118,0 | 4 652,0 |
| 2nd measure | 93 439,5                        | 98 089,0  | 4 649,5 | 42 118,0                        | 46 770,0 | 4 652,0 |
| 3rd measure | 98 089,0                        | 102 740,0 | 4 651,0 | 46 770,0                        | 51 421,0 | 4 651,0 |
| 4th measure | 102 740,0                       | 107 391,0 | 4 651,0 | 51 421,0                        | 56 072,0 | 4 651,0 |

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|                                       | Pre measurement | Post measurement |   |
|---------------------------------------|-----------------|------------------|---|
| <b>Average (1+2+3+4) / 4</b>          | 4 650,5         | 4 651,5          | Today's constant. Either highest or average of before and after measurement |
| <b>Working constant 1 km</b>          | 11 626,3        | 11 628,8         |   |
| <b>Addn. +1%</b>                      | 11,6            | 11,6             |   |
| <b>Measurement constant (rounded)</b> | 11 638,0        | 11 640,0         | 11 639,0  |

| MEASUREMENT PROCEDURE       |         |                                |
|-----------------------------|---------|--------------------------------|
| <b>Measurement constant</b> | 11 639  |                                |
| Measured Distance           | Counter | Description of place           |
| 0m                          | 7595    | Finish-line                    |
| 570,4m                      | 14234   | Crossing-point in the 10k-loop |
|                             |         |                                |
| 0m                          | 15047   | Start-line                     |
| 35,2m                       | 15457   | Crossing-point in the 10k-loop |
|                             |         |                                |
| 0m                          | 16209   | Start of the 10k-loop          |
| 10291,8m                    | 135995  | End of the 10-loop             |
|                             |         |                                |
|                             |         |                                |
|                             |         |                                |
|                             |         |                                |
|                             |         |                                |
|                             |         |                                |
|                             |         |                                |
|                             |         |                                |
|                             |         |                                |

## CONCLUSION OF MEASUREMENT

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## 1. Measurement method

Cook-Jones counter mounted on bicycle wheel

## 2. Measurement procedure

From start to the crossing point in the main 10k-loop should be run once.

The main 10k-loop should be run twice.

From then crossing point in the main 10k-loop to the finish line should be run once.

### Start to 10k-loop

Stop counter - Start counter = total counts

$$15047 - 15457 = 410$$

Total counts / measurement constant \* 1000 = total distance in meter

$$410 / 11639 * 1000 = 35,2 \text{ meter}$$

### Main 10k-loop

Stop counter - Start counter = total counts

$$135995 - 16209 = 119786$$

Total counts / measurement constant \* 1000 = total distance in meter

$$11978 / 11639 * 1000 = 10291,8 \text{ meter}$$

### 10k-loop to finish-line

Stop counter - Start counter = total counts

$$14234 - 7595 = 6639$$

Total counts / measurement constant \* 1000 = total distance in meter

$$6639 / 11639 * 1000 = 570,4 \text{ meter}$$

|                             |   |
|-----------------------------|---|
| Start to 10k-loop           | 35,2m                                   |
| 2 x Main 10k-loop           | $10291,8\text{m} * 2 = 20583,6\text{m}$ |
| 10k-loop to finish          | 570,4m                                  |
| <b>Total</b>                | <b>21189,2m</b>                         |
|                             |   |
| Race length - Half marathon | 21097,5m                                |
|                             |   |
| Need for adjustment         | -91,7m                                  |

Course is 91,7 meter too long.

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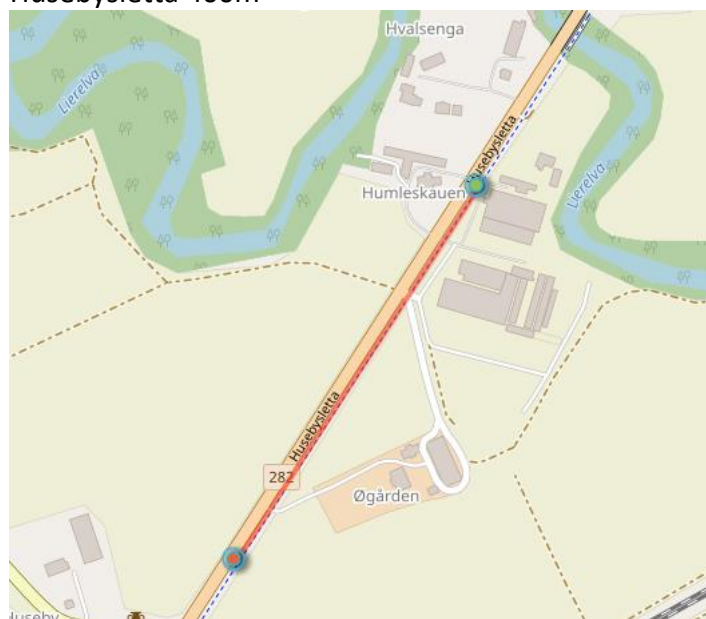
## 3. Course adjustment

The U-turn point in the 10k-loop should be moved 22,9m to make the loop 45,8m shorter.

This 10k-loop is run twice, so the total length of the course will be a half-marathon 21097,5m

## CALIBRATION COURSE MAP

Husebysletta 400m



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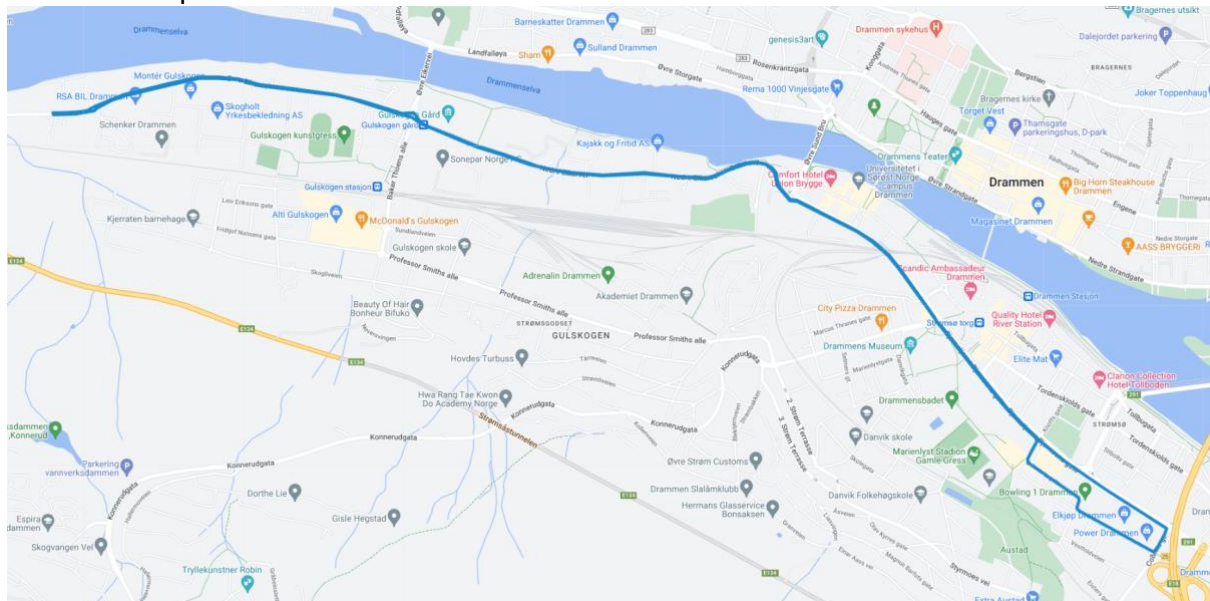
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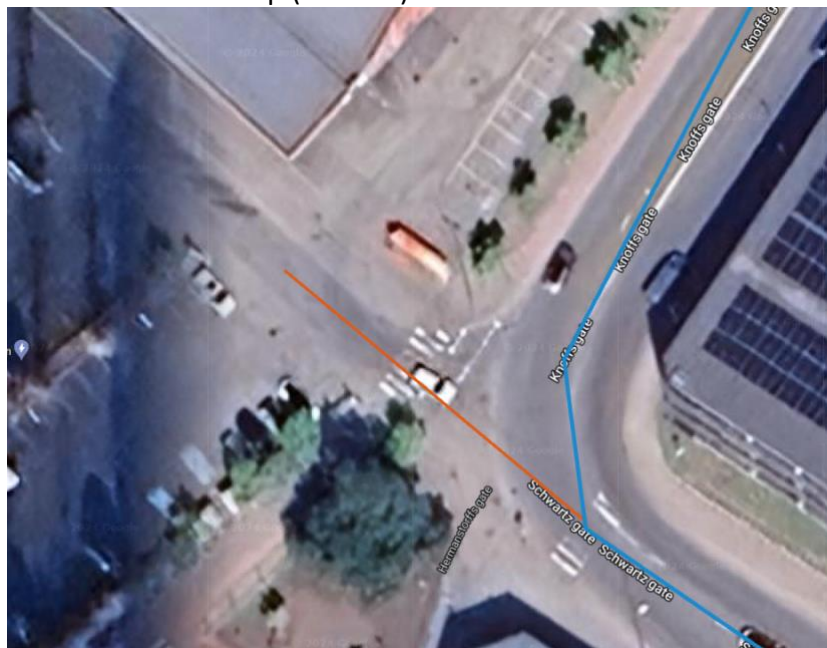
## COURSE MAP & DESCRIPTION

### Main 10k-loop



<https://www.google.com/maps/d/edit?mid=1i29w67ZoA3R68tXLvuGk1sOUBQMwDd0&usp=sharing>

### Start-line to 10k-loop (red line)





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An aerial photograph of the Marienlyst Stadion area in Drammen, Norway. The stadium is a large green field with orange-brown infield and outfield, outlined by a yellow line. Surrounding the stadium are various urban features: a blue line representing a road or railway runs along the top and right; several buildings, including a large one labeled 'Drammensregionens Bymuseum', are visible; and other sports facilities like 'Ballklubben Skid' and 'Storøysodet Toppfotball' are marked. The text 'MARIENLYSTPÅKET' is written across the bottom center of the image.

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## Start





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## U-turn at the end of the 10k-loop

The 10k-loop was measured to the spruce tree, and then moved 22,9m back.

The final u-turn point is at the end of the 10k-loop



At the first lamppost in Øvre Eikervei after the busstop

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## Finish-line

100m startline.

