

# 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

Solastranden – 5 km  
Sola, Norway  
13.January 2024

## COURSE MEASUREMENT REPORT

### - REPORT FOR INTERNATIONAL CERTIFIED COURSE –

| INFORMATION ABOUT EVENT AND COURSE  |
|---|
| <b>Event:</b> Solastranden 5 km   |
| <b>Technical Organiser:</b> Spirit Friidrettsklubb  |
| <b>City/Place:</b> Sola, Norway   |
| <b>Date of Arrangement:</b> 13.January 2024   |
| <b>Date and time for measurement:</b> 27.December 2023 - 11 am  |
| <b>Measured distance(s):</b> 5 km – 10 km – 21 km – <b>This report is for 5 km</b>  |
| <b>Length of calibration course:</b> 300 m  |
| <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> Asphalt with 250 m firm gravel   |
| <b>Elevation Start - Finish:</b> 0  |
| <b>Description of start:</b> Sola Strandhotel – Nordsjøvegen, outside hotel   |
| <b>Description of finish:</b> Sola Strandhotel – Outside main entrance  |
| <b>Distance, in a straight line, between start &amp; finish:</b> 200 m  |
| <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> | Erling Hiorth           | Einar Søndeland                      |
| <b>Phone:</b>          | +47 91337338            | +47 92403587                         |
| <b>Email:</b>          | Erling.hiorth@gmail.com | Einar.sondeland@spirit-friidrett.com |

It is hereby confirmed that the course has been measured by an A- or B certified international certified course measurer from Norwegian Athletics. The course is measured in accordance with AIMS and Norwegian athletics regulations, and the distance(s) has the minimum reported length(s). The survey is valid for 5 years, except if the route is changed.

29.December 2023     *Erling Hiorth*

|      |                              |      |                   |
|------|------------------------------|------|-------------------|
| Date | Signature by Course measurer | Date | Signature by AIMS |
|------|------------------------------|------|-------------------|

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| CALIBRATION COURSE AND PROCEDURE – 15.Dec.2023 – 2 pm                               |                             |
|---|-----------------------------|
| Length of measuring tape (steel measuring tape only)                                | 50 m                        |
| Length of calibration course 1st measurement  | 300,00 m                    |
| Length of calibration course 2nd measurement  | 299,975 m                   |
| Possible 3rd measure (max. 1 cm diff per 100m 1 <sup>st</sup> and 2 <sup>nd</sup> ) | No                          |
| Average of measurements before adjustments  | 299,988 m                   |
| Temperature (road or measuring tape)  | 7 degree                    |
| Adjustment cf. $D-(D*(1+(temp-20)*0,0000115))$                                      | - 0,045 m temp              |
| Measured calibration distance after adjustment                                      | 300,013 m (+7 cm on ground) |
| Distance from start/finish to calibration distance                                  | 300 m                       |

| 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: 27.Dec – 10 am |       |       | Date and Time: 27.Dec – 2 pm |       |       |
|   | Start                         | End   | Diff. | Start                        | End   | Diff. |
| 1st measure   | 47400                         | 50863 | 3463  | 33800                        | 37262 | 3462  |
| 2nd measure   | 50863                         | 54328 | 3465  | 37262                        | 40725 | 3463  |
| 3rd measure   | 54328                         | 57791 | 3463  | 40725                        | 44187 | 3462  |
| 4th measure   | 57791                         | 61256 | 3465  | 44187                        | 47650 | 3463  |

|                                   | Pre measurement | Post measurement |   |
|-----------------------------------|-----------------|------------------|---|
| Average<br>(1+2+3+4) / 4          | 3464            | 3462,5           | Today's constant. Either highest or average of before and after measurement |
| Constant 1 km                     | 11546,18        | 11541,18         |   |
| Addn. +1‰                         | 11,546          | 11,541           |   |
| Measurement constant<br>(rounded) | 11557,7         | 11552,7          | 11556   |

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| MEASUREMENT PROCEDURE |            |   |
|-----------------------|------------|---|
| Measurement constant  | 11556      |   |
| Measured Distance     | Counter    | Description of place                      |
|                       |            |   |
|                       | 83500      | Pre-set start line                        |
| 4.983,0 m             | 141084     | Fixed finish line                         |
|                       |            |   |
|                       |            |   |
|                       |            |   |
| <b>4.983,0 m</b>      |            | <b>Total measured without adjustments</b> |
|                       |            |   |
|                       |            | Adjusted 90 degree turn at 3 km           |
|                       | 49929      | Start before turn – inner curve           |
| -84,8 m               | 50909      | Finish after turn – inner curve           |
|                       | 52388      | Start before turn – outside curve         |
| + 86,8 m              | 53391      | Finish after turn – outside curve         |
|                       |            |   |
| + 15,5 m              | Steel tape | Moved starting line backwards             |
|                       |            |   |
| <b>+ 17,5 m</b>       |            | <b>Total measured adjustments</b>         |
|                       |            |   |
| <b>5.000,5 m</b>      |            | <b>Total measured course</b>              |

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## CONCLUSION OF MEASUREMENT

1. General information about race course and start/finish
  - Finish line for all 3 distances are in front of the hotel
  - Start line is on the road outside the hotel
  - The course consist of 2 loops and has been used over the last years
2. Measurement of calibration course
  - 300 m in straight line from finish, straight/flat cycle path on asphalt
  - Measured in accordance with procedure, 2 persons
  - Marked at both ends, adjusted for temperature and adjusted +7 cm on ground
3. Calibration of bicycle
  - Calibrated in accordance with procedure, 4 measures, deviation 2 count ok
4. Measurement of the course
  - From pre-set start to finish continuous
5. Post calibration of bicycle
  - Same procedure, 4 measures, deviation 1 count ok
6. Course adjustments
  - Turn / curve at 3 km incorrect measured. Corrected to inner / outer measurement.
  - Start line moved 15,5 m backwards to increase the course length
7. Overall length of the course
  - The course is not shorter than 5.000 m
8. Additional info
  - The organizer will set up fences on two corners / 90 degree turns – see pictures
  - The race follows the street first 500 m. The rest of the course is on side roads / cycle paths.

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## CALIBRATION COURSE MAP with start & finish

### Solastranden



### Start



### Finish



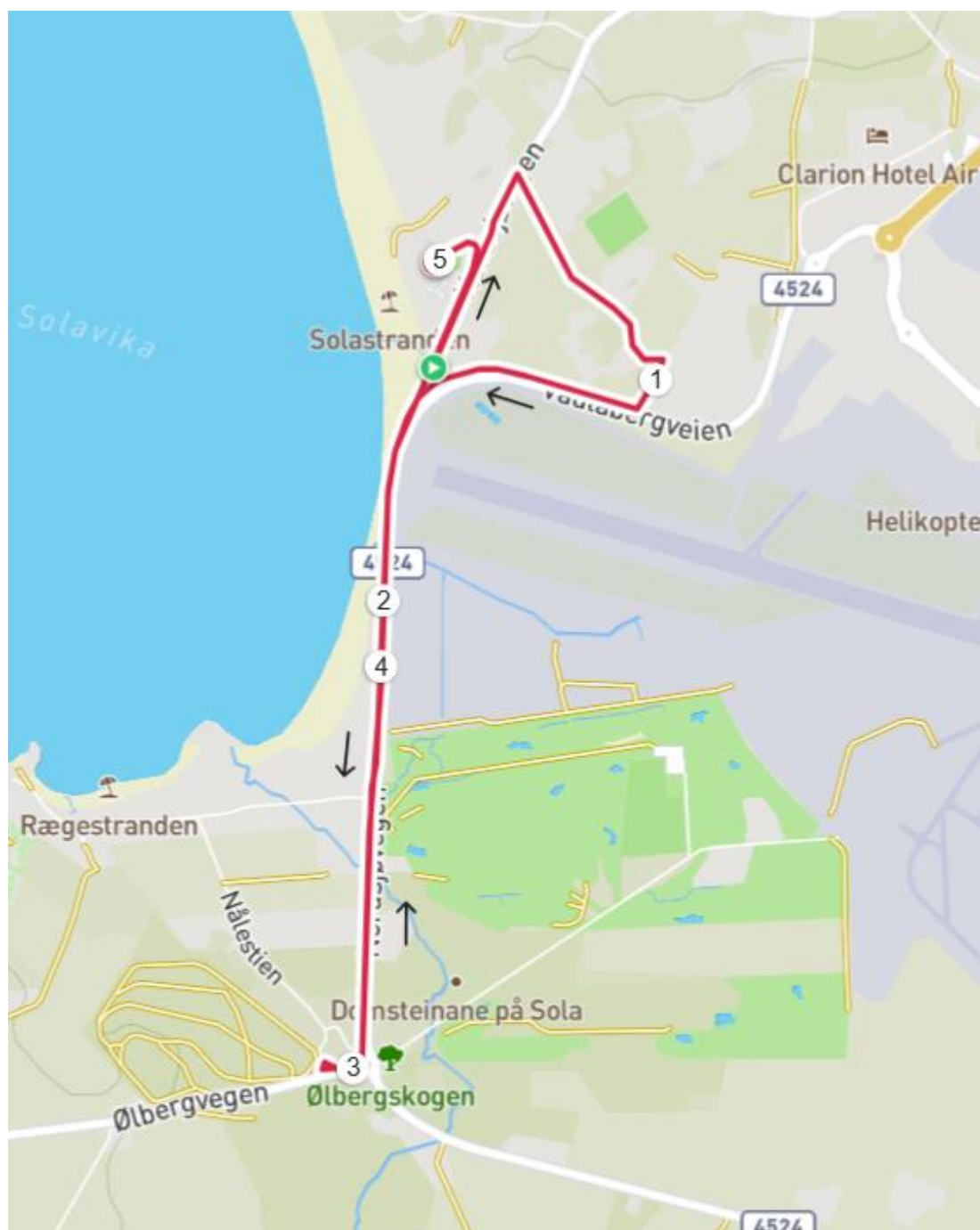
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## COURSE MAP & DESCRIPTION

Solastranden Hotel and Sola Airport





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## Corners with fences / cones



## Turning point @ 3 km



## Towards finish line – last 100 m

