

# 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

5 km  
Randaberg, Norway  
28.September 2024

## COURSE MEASUREMENT REPORT - REPORT FOR INTERNATIONAL CERTIFIED COURSE -

INFORMATION ABOUT EVENT AND COURSE
<b>Event:</b> Randaberg 5 km
<b>Technical Organiser:</b> Grødem Runners Friidrettsklubb
<b>City/Place:</b> Randaberg, Rogaland, Norway ay
<b>Date of Arrangement:</b> 28.September 2024
<b>Date and time for measurement:</b> 21.February 2024 – 2:30 pm
<b>Measured distance(s):</b> 5 km
<b>Length of calibration course:</b> 300 m
<b>Terrain:</b> Flat <input type="checkbox"/> Slightly hilly <input checked="" 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
<b>Elevation Start - Finish:</b> 0
<b>Description of start:</b> Between light poles at entrance to parking lot
<b>Description of finish:</b> Between light poles 25 m before start line
<b>Distance, in a straight line, between start &amp; finish:</b> 25 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	Alexander Middleton
<b>Phone:</b>	+47 91337338	+47 48493042
<b>Email:</b>	Erling.hiorth@gmail.com	Alexander.middleton@gmail.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.

25.March 2024 *Erling Hiorth*

Date Signature by Course measurer Date Signature by AIMS

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CALIBRATION COURSE AND PROCEDURE – 25.May 2023 – 5:30 pm	
Length of measuring tape (steel measuring tape only)	50 m
Length of calibration course 1st measurement	300,000 m
Length of calibration course 2nd measurement	300,003 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	300,0015 m
Temperature (road or measuring tape)	15 degree
Adjustment cf. $D-(D*(1+(temp-20)*0,0000115))$	-0,017 m temp +0,03 m added on ground
Measured calibration distance after adjustment	300,014 m
Distance from start/finish to calibration distance	760 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: 21.Feb – 2:30 pm			Date and Time: 21.Feb – 4:15 pm		
	Start	End	Diff.	Start	End	Diff.
1st measure	60000	63459	3459	8500	11959	3459
2nd measure	63459	66919	3460	11959	15418	3459
3rd measure	66919	70379	3460	15418	18877	3459
4th measure	70379	73839	3460	18877	22337	3460

	Pre measurement	Post measurement	
Average (1+2+3+4) / 4	3459,75	3459,25	Today's constant. Either highest or average of before and after measurement
Constant 1 km	11531,952	11530,286	
Addn. +1‰	11,532	11,530	
Measurement constant (rounded)	11543,484	11541,816	11543

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MEASUREMENT PROCEDURE		
Measurement constant	11543	
Measured Distance	Counter	Description of place
		Trial run
	83000	Start city centre, between 2 lightpoles, 25 m before finish line
5083,9 m	141684	Finish between 2 lightpoles at entrance to parking lot
		Final run – adjusted start/finish and one course adjusted mid way
	42000	Start city centre between 2 lightpoles at entrance to parking lot
5012,0 m	99854	Finish between 2 lightpoles, 25 m before finish line
<b>5012,0 m</b>		<b>Total measured without adjustments</b>
	51592	Course change – shortest route at crossing under Randabergveien – inner circle start
54,4 m	52220	Course change – shortest route at crossing under Randabergveien – inner circle finish
	50300	Original measure outer circle per above - start
-57,4 m	50963	Original measure outer circle per above - finish
<b>- 3 m</b>		<b>Total measured adjustments</b>
<b>5.009,0 m</b>		<b>Total measured course</b>

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## CONCLUSION OF MEASUREMENT

1. General information about race course and start/finish
  - The course consist of a closed loop of 5034 m - 25m adjusted start
  - Start / finish at city centre, same place as last year approved WA 10 km
  - Important note: 5 km race has start at upper light pole in opposite to 10 km race which uses lower light pole as starting point. This represent no risk to the 5 km race itself.
2. Measurement of calibration course
  - Vistnesveien 51, main road
  - Measured in accordance with procedure, 2 persons
  - Fixed mark at both ends, adjusted for temperature and adjusted +3 cm on ground
  - This calibration course was established in May 2023 during 10k race and WA approved 05.07.2023. There are permanent nails at both ends.
3. Calibration of bicycle
  - Calibrated in accordance with procedure, 4 measures, deviation 1 count
4. Measurement of the course
  - Started from assumed start and then 1 closed loop to assumed finish
  - One trial round performed to review required changes
  - Final round performed incl. adjusted start/finish and one adjustment half way
5. Post calibration of bicycle
  - Same procedure, 4 measures, deviation 1 count
6. Course adjustments
  - One adjustments done to ensure shortest possible route with no need for barracks
7. Overall length of the course
  - The course is not shorter than 5 km
  - Organizer accept a longer course (+ 9 m) as there is no options to shorten this
8. Additional info
  - Right lane to be used first 20 m after start, fences to be set up between road and walking path
  - Left lane to be used last 200 m before finish, in "Jon Torgergsson vei" through 2x left turns. Cones to be used to separate road and walking path.

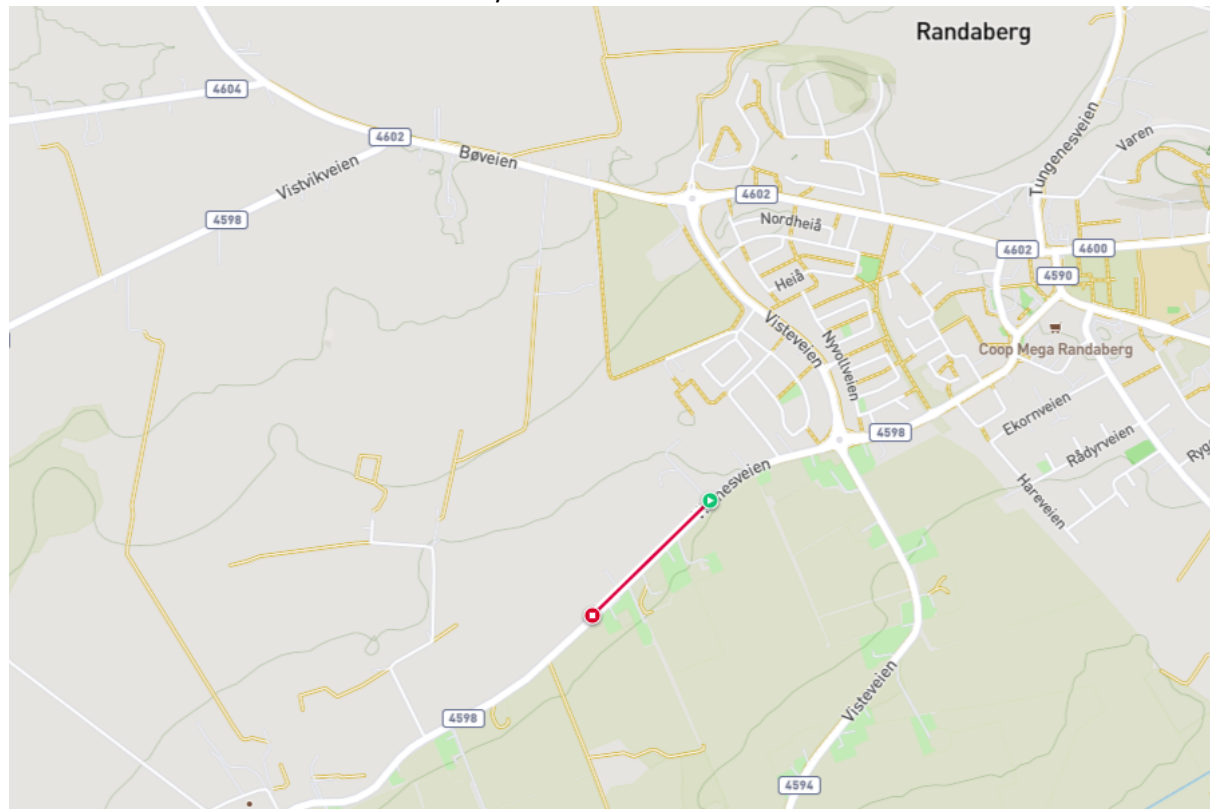
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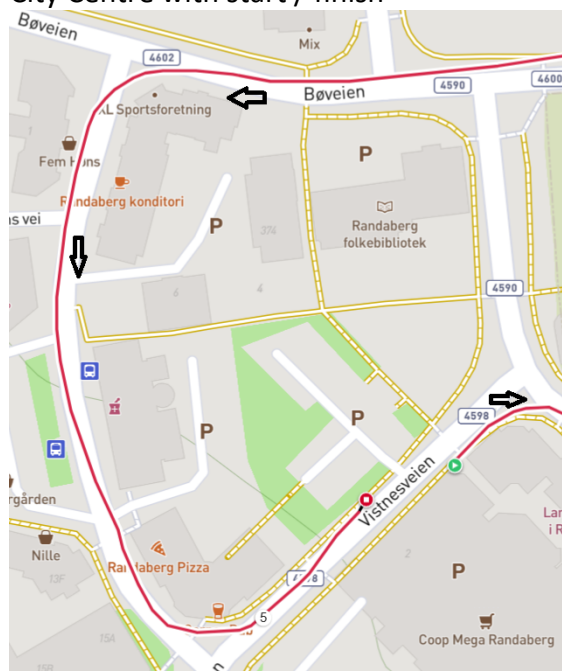
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## CALIBRATION COURSE MAP & City Centre

Calibration course – 760 m from start/finish



City Centre with start / finish



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## COURSE MAP & DESCRIPTION

Start



Finish



Course





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**Corners where road will be used. Fences / cones between road and walking path.**

From start line and first 20 m



Start of "Jon Torgergsson vei"



End of "Jon Torgergsson vei"

