

Project:

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18-10-2013 16:50 / 1

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NL-3984 MK Odijk

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Calculated:

18-10-2013 16:17/2.9.250



DECIBEL - Main Result

Calculation: 4xWT

DUTCH RULES FOR NOISE CALCULATION.

The calculation is based on "Reken- en meetvoorschrift windturbines", February 2010

The calculation is based on ISO 9613-2 and assumes uniform directional distribution

The wind distribution is calculated for the Site center from <http://www.mp.nl/rekentoof/>

Noise values in calculation:

All noise values are Lden values



Scale 1:50.000

New WTG

Noise sensitive area

WTGs

RD1	East North Z			Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Setting	Noise data		Wind speed [m/s]	Status	LwA_ref [dB(A)]	Pure tones
	Valid	Manufact.	Type-generator		Creator	Name											
1	145.638	444.118	0,0	NORDEX N117 2400 117.0 IO! ...	No	NORDEX	N117-2.400	2.400	117,0	120,0	Day	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	6,9	Aggregated	99,1	No
											Evening	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	7,0	Aggregated	99,3	No
											Night	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	7,4	Aggregated	99,5	No
2	146.164	443.855	0,0	NORDEX N117 2400 117.0 IO! ...	No	NORDEX	N117-2.400	2.400	117,0	120,0	Day	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	6,9	Aggregated	99,1	No
											Evening	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	7,0	Aggregated	99,3	No
											Night	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	7,4	Aggregated	99,5	No
3	146.631	443.622	0,0	NORDEX N117 2400 117.0 IO! ...	No	NORDEX	N117-2.400	2.400	117,0	120,0	Day	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	6,9	Aggregated	99,1	No
											Evening	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	7,0	Aggregated	99,3	No
											Night	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	7,4	Aggregated	99,5	No
4	145.059	444.406	0,0	NORDEX N117 2400 117.0 IO! ...	No	NORDEX	N117-2.400	2.400	117,0	120,0	Day	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	6,9	Aggregated	99,1	No
											Evening	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	7,0	Aggregated	99,3	No
											Night	EMD	Level 6 - Calculated - Mode 101.0 dB - 11-2011	7,4	Aggregated	99,5	No

Calculation Results

Sound Level

Noise sensitive area No.	Name	RD1			Imission height [m]	Demands Noise [dB(A)]	Sound Level		Distance to noise demand [m]	Demands fulfilled ? Noise
		East	North	Z			From WTGs [dB(A)]	Distance to noise demand [m]		
A	Hoeksedijk 2, 3961 ME Wijk bij Duurstede	146.926	443.424	0,0	5,0	47,0	44,2	112	Yes	
B	Hoeksedijk 3, 3998 NM Schalkwijk	146.776	443.299	0,0	5,0	47,0	44,3	109	Yes	
C	Beusichemseweg 146, 3998 NL Schalkwijk	145.997	443.658	0,0	5,0	47,0	47,5	-20	No	
D	Beusichemseweg 71, 3998 NL Schalkwijk	145.849	443.700	0,0	5,0	47,0	46,1	53	Yes	
E	Beusichemseweg 69, 3998 NL Schalkwijk	145.670	443.765	0,0	5,0	47,0	45,8	67	Yes	
F	Zuwedijk 6, 3998 NA Schalkwijk	145.113	444.143	0,0	5,0	47,0	47,0	1	Yes	
G	Nachtdijk 25, 3997 MR 't Goy	145.250	444.593	0,0	5,0	47,0	46,7	12	Yes	
H	Kapelleweg 25, 3997 MP 't Goy	145.654	444.526	0,0	5,0	47,0	44,5	137	Yes	
I	Kapelleweg 20, 3997 MP 't Goy	145.796	444.554	0,0	5,0	47,0	43,5	194	Yes	
J	Kapelleweg 6, 3945 LA Cothen	145.857	444.546	0,0	5,0	47,0	43,3	212	Yes	
K	Noise sensitive point: Demands defined in calculation setup. (11)	144.797	444.916	0,0	5,0	47,0	40,2	334	Yes	
L	Kapelleweg 11, 3945 LA Cothen	146.164	444.546	0,0	5,0	47,0	41,7	397	Yes	
M	Kapelleweg 9, 3945 LA Cothen	146.239	444.571	0,0	5,0	47,0	41,2	436	Yes	
N	Kapelleweg 7, 3945 LA Cothen	146.425	444.534	0,0	5,0	47,0	40,6	450	Yes	
O	Nachtdijk 19, 3997 MR 't Goy	145.560	444.854	0,0	5,0	47,0	41,0	415	Yes	
P	Kapelleweg 5, 3945 LA Cothen	146.665	444.539	0,0	5,0	47,0	39,4	568	Yes	
Q	Kapelleweg 3, 3945 LA Cothen	146.857	444.529	0,0	5,0	47,0	38,4	667	Yes	
R	Wijkersloot 33, 3961 MN Wijk bij Duurstede	147.703	443.944	0,0	5,0	47,0	34,6	873	Yes	
S	Hoeksedijk 1, 3998 NM Schalkwijk	146.689	443.093	0,0	5,0	47,0	41,2	284	Yes	
T	Lekdijk West 53, 3961 MD Wijk bij Duurstede	146.624	442.995	0,0	5,0	47,0	40,0	377	Yes	
U	Lekdijk West 52, 3961 MD Wijk bij Duurstede	146.732	442.908	0,0	5,0	47,0	38,7	473	Yes	
V	Noise sensitive point: Demands defined in calculation setup. (22)	144.393	445.171	0,0	5,0	47,0	34,8	776	Yes	

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**DECIBEL - Main Result**

Calculation: 4xWT

Distances (m)**WTG**

NSA	1	2	3	4
A	1463	876	356	2110
B	1402	827	354	2043
C	583	258	635	1199
D	468	351	785	1059
E	355	502	971	886
F	525	1090	1605	268
G	613	1175	1688	267
H	408	843	1331	607
I	463	789	1251	752
J	481	756	1205	810
K	1159	1730	2244	573
L	679	691	1035	1114
M	752	719	1027	1191
N	890	727	935	1372
O	740	1167	1632	672
P	1110	848	918	1612
Q	1286	966	935	1801
R	2072	1541	1119	2683
S	1468	926	532	2093
T	1494	975	626	2107
U	1631	1104	721	2246
V	1630	2206	2721	1014

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**DECIBEL - Detailed results****Calculation: 4xWTNoise calculation model: Dutch 2011 8,0 m/s****Calculation Results****Noise sensitive area: A Hoeksedijk 2, 3961 ME Wijk bij Duurstede**

WTG		Lden(year)		L Annual mean							
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	Day [dB(A)]	Wind speed [m/s]	Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]	
1	1.463	1.468	29,01	22,31	6,9	22,47	7,0	22,68	7,4	0,62	
2	876	883	34,98	28,28	6,9	28,44	7,0	28,65	7,4	0,00	
3	356	374	43,41	36,71	6,9	36,87	7,0	37,08	7,4	0,00	
4	2.110	2.113	23,83	17,12	6,9	17,29	7,0	17,50	7,4	1,73	
Sum	44,17										

Noise sensitive area: B Hoeksedijk 3, 3998 NM Schalkwijk

WTG		Lden(year)		L Annual mean							
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	Day [dB(A)]	Wind speed [m/s]	Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]	
1	1.402	1.407	29,59	22,89	6,9	23,05	7,0	23,26	7,4	0,50	
2	827	835	35,55	28,85	6,9	29,01	7,0	29,22	7,4	0,00	
3	354	372	43,44	36,74	6,9	36,90	7,0	37,11	7,4	0,00	
4	2.043	2.046	24,19	17,49	6,9	17,65	7,0	17,86	7,4	1,73	
Sum	44,29										

Noise sensitive area: C Beusichemseweg 146, 3998 NL Schalkwijk

WTG		Lden(year)		L Annual mean							
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	Day [dB(A)]	Wind speed [m/s]	Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]	
1	583	594	38,94	32,24	6,9	32,40	7,0	32,61	7,4	0,00	
2	258	283	46,02	39,32	6,9	39,48	7,0	39,70	7,4	0,00	
3	635	646	38,13	31,42	6,9	31,59	7,0	31,80	7,4	0,00	
4	1.199	1.205	31,76	25,05	6,9	25,21	7,0	25,43	7,4	0,00	
Sum	47,47										

Noise sensitive area: D Beusichemseweg 71, 3998 NL Schalkwijk

WTG		Lden(year)		L Annual mean							
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	Day [dB(A)]	Wind speed [m/s]	Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]	
1	468	482	40,98	34,27	6,9	34,44	7,0	34,65	7,4	0,00	
2	351	369	43,53	36,83	6,9	36,99	7,0	37,20	7,4	0,00	
3	785	794	36,06	29,36	6,9	29,52	7,0	29,74	7,4	0,00	
4	1.059	1.066	33,04	26,34	6,9	26,50	7,0	26,72	7,4	0,00	
Sum	46,14										

Noise sensitive area: E Beusichemseweg 69, 3998 NL Schalkwijk

WTG		Lden(year)		L Annual mean							
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	Day [dB(A)]	Wind speed [m/s]	Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]	
1	355	373	43,43	36,73	6,9	36,89	7,0	37,10	7,4	0,00	
2	502	515	40,34	33,64	6,9	33,80	7,0	34,01	7,4	0,00	
3	971	978	33,93	27,23	6,9	27,39	7,0	27,60	7,4	0,00	
4	886	893	34,87	28,17	6,9	28,33	7,0	28,54	7,4	0,00	
Sum	45,84										

Noise sensitive area: F Zuwedijk 6, 3998 NA Schalkwijk

WTG		Lden(year)		L Annual mean							
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	Day [dB(A)]	Wind speed [m/s]	Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]	
1	525	538	39,92	33,21	6,9	33,38	7,0	33,59	7,4	0,00	
2	1.090	1.096	32,75	26,05	6,9	26,21	7,0	26,42	7,4	0,00	

To be continued on next page...

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**DECIBEL - Detailed results****Calculation: 4xWTNoise calculation model: Dutch 2011 8,0 m/s**

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No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
3	1.605	1.609	27,28	20,57	6,9	20,74	7,0	20,95	7,4	1,35	
4	268	292	45,74	39,04	6,9	39,20	7,0	39,41	7,4	0,00	
Sum	46,97										

Noise sensitive area: G Nachtdijk 25, 3997 MR 't Goy

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	613	624	38,46	31,76	6,9	31,92	7,0	32,14	7,4	0,00	
2	1.175	1.180	31,97	25,27	6,9	25,43	7,0	25,64	7,4	0,00	
3	1.688	1.692	26,66	19,96	6,9	20,12	7,0	20,33	7,4	1,41	
4	267	291	45,77	39,07	6,9	39,23	7,0	39,44	7,4	0,00	
Sum	46,70										

Noise sensitive area: H Kapelleweg 25, 3997 MP 't Goy

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	409	424	42,20	35,50	6,9	35,66	7,0	35,87	7,4	0,00	
2	843	851	35,36	28,66	6,9	28,82	7,0	29,04	7,4	0,00	
3	1.331	1.336	30,34	23,64	6,9	23,80	7,0	24,01	7,4	0,31	
4	607	618	38,56	31,86	6,9	32,02	7,0	32,23	7,4	0,00	
Sum	44,52										

Noise sensitive area: I Kapelleweg 20, 3997 MP 't Goy

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	464	478	41,07	34,36	6,9	34,53	7,0	34,74	7,4	0,00	
2	790	798	36,01	29,31	6,9	29,47	7,0	29,68	7,4	0,00	
3	1.251	1.256	31,30	24,60	6,9	24,76	7,0	24,98	7,4	0,00	
4	752	760	36,50	29,79	6,9	29,96	7,0	30,17	7,4	0,00	
Sum	43,54										

Noise sensitive area: J Kapelleweg 6, 3945 LA Cothen

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	481	495	40,73	34,03	6,9	34,19	7,0	34,40	7,4	0,00	
2	756	765	36,44	29,73	6,9	29,90	7,0	30,11	7,4	0,00	
3	1.206	1.211	31,70	25,00	6,9	25,16	7,0	25,37	7,4	0,00	
4	810	818	35,76	29,05	6,9	29,22	7,0	29,43	7,4	0,00	
Sum	43,32										

Noise sensitive area: K Noise sensitive point: Demands defined in calculation setup. (11)

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	1.159	1.165	32,11	25,41	6,9	25,57	7,0	25,78	7,4	0,00	
2	1.730	1.734	26,32	19,62	6,9	19,78	7,0	19,99	7,4	1,48	
3	2.244	2.247	22,44	15,74	6,9	15,90	7,0	16,11	7,4	2,41	
4	573	585	39,10	32,40	6,9	32,56	7,0	32,78	7,4	0,00	
Sum	40,16										

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**DECIBEL - Detailed results**

Calculation: 4xWTNoise calculation model: Dutch 2011 8,0 m/s

Noise sensitive area: L Kapelleweg 11, 3945 LA Cothen

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	679	688	37,49	30,79	6,9	30,95	7,0	31,16	7,4	0,00	
2	691	701	37,31	30,61	6,9	30,77	7,0	30,98	7,4	0,00	
3	1.036	1.042	33,28	26,58	6,9	26,74	7,0	26,95	7,4	0,00	
4	1.114	1.120	32,52	25,82	6,9	25,98	7,0	26,20	7,4	0,00	
Sum	41,74										

Noise sensitive area: M Kapelleweg 9, 3945 LA Cothen

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	752	761	36,49	29,79	6,9	29,95	7,0	30,16	7,4	0,00	
2	720	729	36,92	30,22	6,9	30,38	7,0	30,59	7,4	0,00	
3	1.027	1.033	33,37	26,66	6,9	26,83	7,0	27,04	7,4	0,00	
4	1.191	1.197	31,83	25,12	6,9	25,29	7,0	25,50	7,4	0,00	
Sum	41,16										

Noise sensitive area: N Kapelleweg 7, 3945 LA Cothen

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	890	897	34,82	28,12	6,9	28,28	7,0	28,49	7,4	0,00	
2	727	736	36,82	30,12	6,9	30,28	7,0	30,49	7,4	0,00	
3	935	942	34,32	27,62	6,9	27,78	7,0	27,99	7,4	0,00	
4	1.372	1.376	30,06	23,35	6,9	23,52	7,0	23,73	7,4	0,27	
Sum	40,63										

Noise sensitive area: O Nachtdijk 19, 3997 MR 't Goy

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	740	749	36,65	29,95	6,9	30,11	7,0	30,32	7,4	0,00	
2	1.167	1.173	32,04	25,33	6,9	25,50	7,0	25,71	7,4	0,00	
3	1.633	1.637	27,31	20,60	6,9	20,77	7,0	20,98	7,4	1,13	
4	672	682	37,59	30,88	6,9	31,05	7,0	31,26	7,4	0,00	
Sum	40,97										

Noise sensitive area: P Kapelleweg 5, 3945 LA Cothen

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	1.110	1.116	32,56	25,86	6,9	26,02	7,0	26,23	7,4	0,00	
2	848	856	35,30	28,60	6,9	28,76	7,0	28,97	7,4	0,00	
3	918	925	34,51	27,81	6,9	27,97	7,0	28,18	7,4	0,00	
4	1.612	1.616	27,89	21,18	6,9	21,35	7,0	21,56	7,4	0,69	
Sum	39,36										

Noise sensitive area: Q Kapelleweg 3, 3945 LA Cothen

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	1.286	1.291	30,94	24,24	6,9	24,40	7,0	24,61	7,4	0,08	
2	966	973	33,99	27,28	6,9	27,45	7,0	27,66	7,4	0,00	
3	935	942	34,32	27,62	6,9	27,78	7,0	27,99	7,4	0,00	
4	1.802	1.805	26,39	19,69	6,9	19,85	7,0	20,07	7,4	0,95	
Sum	38,38										

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R.L.M. de Coö / info@winvast.nl

Calculated:

18-10-2013 16:17/2.9.250

**DECIBEL - Detailed results**

Calculation: 4xWTNoise calculation model: Dutch 2011 8,0 m/s

Noise sensitive area: R Wijkersloot 33, 3961 MN Wijk bij Duurstede

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	2.072	2.075	24,42	17,72	6,9	17,88	7,0	18,10	7,4	1,34	
2	1.541	1.545	28,48	21,78	6,9	21,94	7,0	22,15	7,4	0,59	
3	1.119	1.125	32,48	25,78	6,9	25,94	7,0	26,15	7,4	0,00	
4	2.683	2.686	20,84	14,14	6,9	14,30	7,0	14,51	7,4	1,90	
Sum	34,58										

Noise sensitive area: S Hoeksedijk 1, 3998 NM Schalkwijk

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	1.468	1.473	28,86	22,16	6,9	22,32	7,0	22,53	7,4	0,74	
2	925	933	34,42	27,72	6,9	27,88	7,0	28,10	7,4	0,00	
3	532	544	39,80	33,10	6,9	33,26	7,0	33,47	7,4	0,00	
4	2.093	2.096	23,75	17,04	6,9	17,21	7,0	17,42	7,4	1,90	
Sum	41,25										

Noise sensitive area: T Lekdijk West 53, 3961 MD Wijk bij Duurstede

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	1.494	1.499	28,56	21,86	6,9	22,02	7,0	22,24	7,4	0,84	
2	975	982	33,89	27,19	6,9	27,35	7,0	27,57	7,4	0,00	
3	626	637	38,26	31,56	6,9	31,72	7,0	31,93	7,4	0,00	
4	2.107	2.110	23,60	16,89	6,9	17,06	7,0	17,27	7,4	1,98	
Sum	40,04										

Noise sensitive area: U Lekdijk West 52, 3961 MD Wijk bij Duurstede

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	1.631	1.635	27,25	20,55	6,9	20,71	7,0	20,92	7,4	1,20	
2	1.104	1.110	32,61	25,91	6,9	26,07	7,0	26,29	7,4	0,00	
3	721	730	36,91	30,20	6,9	30,36	7,0	30,58	7,4	0,00	
4	2.246	2.248	22,69	15,98	6,9	16,15	7,0	16,36	7,4	2,15	
Sum	38,72										

Noise sensitive area: V Noise sensitive point: Demands defined in calculation setup. (22)

No.	Distance [m]	Sound distance [m]	Lden(year)		L Annual mean		Evening [dB(A)]	Wind speed [m/s]	Night [dB(A)]	Wind speed [m/s]	Cmeteo [dB]
			Calculated [dB(A)]	Day [dB(A)]	Day [dB(A)]	Wind speed [m/s]					
1	1.630	1.634	27,24	20,54	6,9	20,70	7,0	20,91	7,4	1,22	
2	2.206	2.209	22,72	16,02	6,9	16,18	7,0	16,39	7,4	2,33	
3	2.721	2.724	19,63	12,93	6,9	13,09	7,0	13,30	7,4	2,95	
4	1.014	1.021	33,49	26,79	6,9	26,95	7,0	27,16	7,4	0,00	
Sum	34,83										

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DECIBEL - Assumptions for noise calculation

Calculation: 4xWTNoise calculation model: Dutch 2011 8,0 m/s

Noise calculation model:

Dutch 2011

Wind speed:

Aggregated

Ground attenuation:

General, Ground factor: 0,5

Meteorological coefficient, C0:

5,0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty are added to demand: 0,0 dB(A)

Height above ground level, when no value in NSA object:

5,0 m Allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0,0 dB(A)

Setup for Lden calculation

Variant	Name	From hour	To hour	Hours	Penalty [dB]	Days per year
1	Day	7	19	12	0	365
2	Evening	19	23	4	5	365
3	Night	23	7	8	10	365

Octave data required

Air absorption

63	125	250	500	1.000	2.000	4.000	8.000
[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]
0,1	0,3	0,8	1,6	2,9	6,2	19,0	67,0

WTG: NORDEX N117 2400 117.0 !O!

Noise: Level 6 - Calculated - Mode 101.0 dB - 11-2011

Source Source/Date Creator Edited
 Manufacturer 30-11-2011 EMD 23-1-2012 10:12
 Based on document K0818_030006_EN Rev. 03

Status	Wind speed [m/s]	Frequency Day [%]	Octave data				LwA,ref [dB(A)]	Pure tones	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]						
			Frequency Evening [%]	Frequency Night [%]	63	125											250	500	1000	2000	4000	8000
ExtraPolated	3,0	7,4	4,9	4,2	95,4	No	73,2	80,6	89,7	90,9	88,7	85,0	79,6	66,7								
Interpolated	4,0	10,4	9,9	7,4	96,6	No	74,5	81,9	91,0	92,2	90,0	86,3	80,9	68,0								
Interpolated	5,0	12,0	12,8	10,5	97,9	No	75,7	83,1	92,2	93,4	91,2	87,5	82,1	69,2								
Interpolated	6,0	12,8	13,7	14,2	99,1	No	77,0	84,4	93,5	94,7	92,5	88,8	83,4	70,5								
Interpolated	7,0	12,7	14,2	16,7	99,6	No	77,4	84,8	93,9	95,1	92,9	89,2	83,8	70,9								
Interpolated	8,0	10,2	11,7	13,7	100,1	No	77,9	85,3	94,4	95,6	93,4	89,7	84,3	71,4								
Interpolated	9,0	8,2	8,5	9,5	100,5	No	79,1	86,1	94,6	95,9	94,0	90,4	85,1	72,7								
Interpolated	10,0	6,2	6,5	7,2	100,9	No	83,6	88,0	93,7	95,5	95,0	92,1	87,4	77,6								
Interpolated	11,0	4,3	5,1	4,6	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	12,0	3,1	3,0	3,3	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	13,0	2,0	2,0	2,1	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	14,0	1,5	1,3	1,3	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	15,0	1,2	0,9	1,0	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	16,0	0,8	0,4	0,7	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	17,0	0,3	0,2	0,2	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	18,0	0,2	0,1	0,1	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	19,0	0,1	0,1	0,1	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	20,0	0,1	0,0	0,0	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								
Interpolated	21,0	0,1	0,0	0,0	101,0	No	84,9	88,6	93,4	95,4	95,3	92,6	88,1	79,0								

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DECIBEL - Assumptions for noise calculation

Calculation: 4xWTNoise calculation model: Dutch 2011 8,0 m/s

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data							
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
Aggregated, Day	120,0	6,9	99,1	No	79,6	85,2	92,9	94,3	92,7	89,4	84,4	73,5
Aggregated, Evening	120,0	7,0	99,3	No	79,7	85,3	93,1	94,5	92,9	89,5	84,5	73,5
Aggregated, Night	120,0	7,4	99,5	No	79,9	85,5	93,3	94,7	93,1	89,7	84,7	73,7

NSA: Hoeksedijk 2, 3961 ME Wijk bij Duurstede-A

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Hoeksedijk 3, 3998 NM Schalkwijk-B

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Beusichemseweg 146, 3998 NL Schalkwijk-C

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Beusichemseweg 71, 3998 NL Schalkwijk-D

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Beusichemseweg 69, 3998 NL Schalkwijk-E

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Zuwedijk 6, 3998 NA Schalkwijk-F

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Nachtdijk 25, 3997 MR 't Goy-G

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Kapelleweg 25, 3997 MP 't Goy-H

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

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DECIBEL - Assumptions for noise calculation

Calculation: 4xWTNoise calculation model: Dutch 2011 8,0 m/s

NSA: Kapelleweg 20, 3997 MP 't Goy-I

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Kapelleweg 6, 3945 LA Cothen-J

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Noise sensitive point: Demands defined in calculation setup. (11)-K

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Kapelleweg 11, 3945 LA Cothen-L

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Kapelleweg 9, 3945 LA Cothen-M

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Kapelleweg 7, 3945 LA Cothen-N

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Nachtdijk 19, 3997 MR 't Goy-O

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Kapelleweg 5, 3945 LA Cothen-P

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

NSA: Kapelleweg 3, 3945 LA Cothen-Q

Predefined calculation standard: Dutch Lden

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 47,0 dB(A)

Distance demand:

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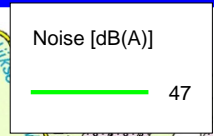
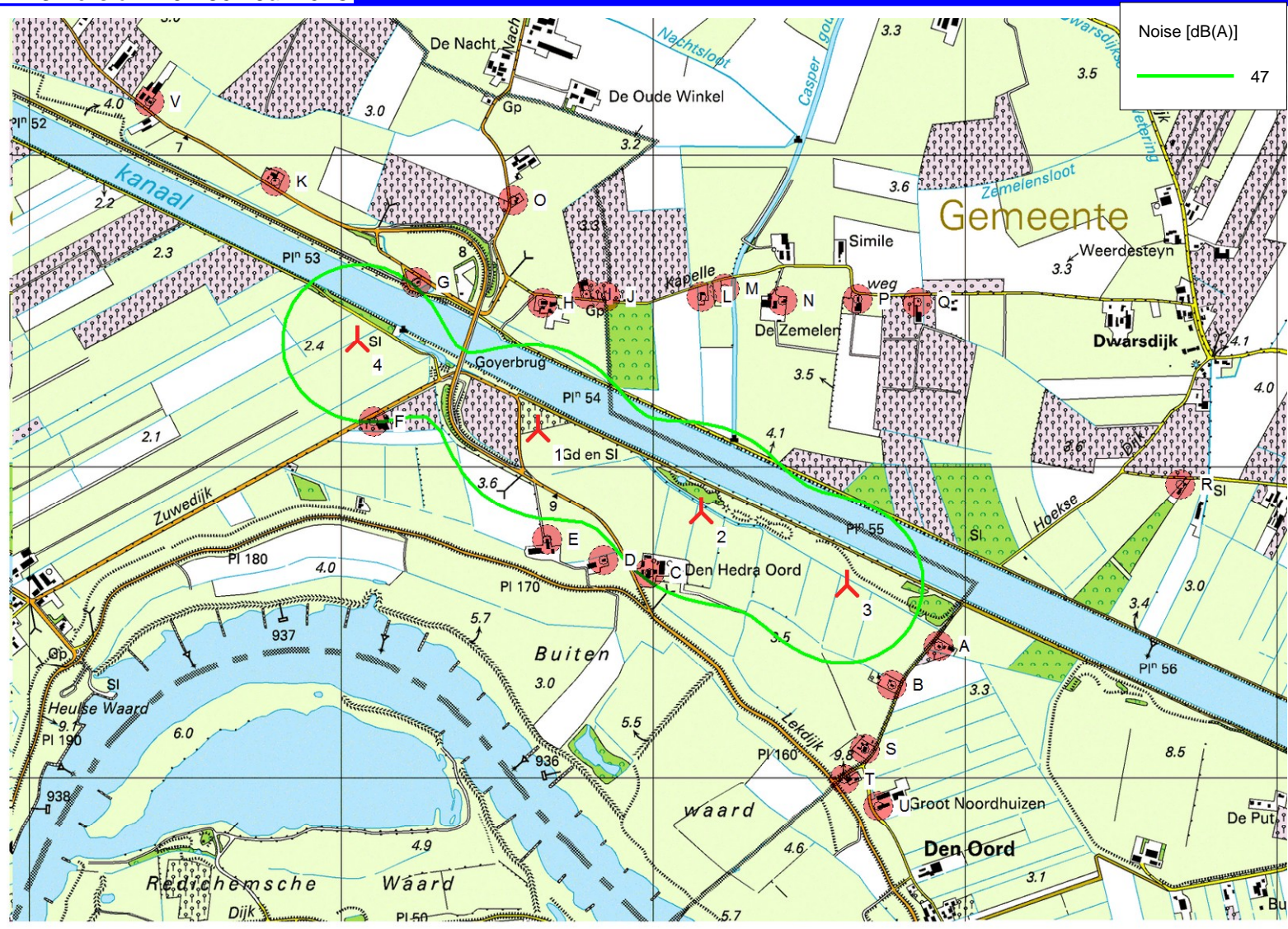
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**DECIBEL - Assumptions for noise calculation****Calculation:** 4xWTNoise calculation model: Dutch 2011 8,0 m/s**NSA:** Wijkersloot 33, 3961 MN Wijk bij Duurstede-R**Predefined calculation standard:** Dutch Lden**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 47,0 dB(A)**Distance demand:****NSA:** Hoeksedijk 1, 3998 NM Schalkwijk-S**Predefined calculation standard:** Dutch Lden**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 47,0 dB(A)**Distance demand:****NSA:** Lekdijk West 53, 3961 MD Wijk bij Duurstede-T**Predefined calculation standard:** Dutch Lden**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 47,0 dB(A)**Distance demand:****NSA:** Lekdijk West 52, 3961 MD Wijk bij Duurstede-U**Predefined calculation standard:** Dutch Lden**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 47,0 dB(A)**Distance demand:****NSA:** Noise sensitive point: Demands defined in calculation setup. (22)-V**Predefined calculation standard:** Dutch Lden**Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 47,0 dB(A)**Distance demand:**



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DECIBEL -
Map Aggregated
Calculation:
4xWT
Noise calculation model:
Dutch 2011 8,0 m/s

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⚡ New WTG

Map: Bitmap map: 146957-442546-149634-445753.tif , Print scale 1:20.000, Map center RD1 East: 145.845 North: 444.014
 ■ Noise sensitive area

Noise calculation model: Dutch 2011. Wind speed: Aggregated
 Height above sea level from active line object