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Architectural Acoustics Noise & Vibration Control Environmental Noise Traffic Noise Acoustical Material Research Underwater Sound Nonlinear Acoustics

**ADDENDUM TO**

**ENVIRONMENTAL NOISE IMPACT ASSESSMENT OF PORTION OF THE  
PROPOSED HAASENDAL DEVELOPMENT AND KUILS RIVER GOLF COURSE  
REDEVELOPMENT ON ERVEN 23580, 23579, 23582, 23583 AND 23584;  
FARM 1339; AND PORTIONS 60, 64, 67, 87 AND 106 OF FARM 222,  
KUILS RIVER, WESTERN CAPE**

**Prepared for  
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**Prepared by  
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## INTRODUCTION

Subsequent to submission of the Noise Impact Assessment of the Proposed Haasendal Development (JKA, July 2018) a letter was received from Werner Geldenhuys of Community Services and Health Directorate Noise Control Administration, City of Cape Town, dated 11 February 2019. The relevant extract from that letter is reproduced hereunder.

As per the preferred layout alternative of 14 November 2018; business nodes are predominantly on the Western edge of the development. The business nodes are in several instances in very close proximity to dense clustered **housing nodes, school and retirement nodes**.

In terms of the WC Noise Control Regulations, PN 200/2013, Section 1, all of the above are regarded as noise sensitive activities.

In terms of Regulation 4(2)(a) of the mentioned legislation, the erection of a noise sensitive activity in a commercial or industrial district requires sufficient insulation against external noise.

A concern arises what control measures/ preventative measures will be applied to instances where noise sensitive activities are abutting or in close proximity to noise sources.

### Requirements:

The applicant is required to:

1. Elaborate on the potential noise impact of businesses on noise sensitive activities, as part of the Noise Impact Assessment.
2. Recommend control measures, which will limit or negate the impact of noise on the noise sensitive activities. (these measures to also be included in the Environmental Health Management Plan).

In March 2019 the entire Haasendal development was amended with a proposed new Site Development Plan (SDP) entitled *Haasendal original farm rev 1* reproduced as Figure 1.

The housing nodes, school and retirement nodes referred to in the City of Cape Town letter of 11 February 2019 are basically the same in the currently proposed SDP save for the Apartment nodes 21k, l and m being changed and incorporated in Single Residential node 16.

This addendum addresses the City of Cape Town letter applied to the currently proposed SDP.



FIGURE 1 Proposed new Site Development Plan entitled Haasendal original farm rev 1

In the extract of the City of Cape Town letter the second sentence of paragraph two of correctly applies to a mixed-use zone where, for example, residential dwellings are proposed within a central business or industrial district. However, the noise sensitive nodes referred to in the first paragraph of the extract are separate districts outside of the business districts and not within those districts as implied in the second sentence of paragraph two. No industrial nodes are included in the proposed development.

The original SDP as well as the current SDP follows good planning practice by locating business nodes between the Saxdowns Road and residential and school nodes. The business nodes thereby form a buffer between high levels of road traffic noise and noise sensitive areas.

Table 2 of South African National Standard (SANS) 10103:2008 *The measurement and rating of environmental noise with respect to annoyance and to speech communication* provides the typical rating level of noise in various districts that should not be exceeded. It is considered that business districts in the proposed development would appropriately be described under *d) Urban district with business premises and main roads* with daytime and night-time rating levels of 60 dBA and 50 dBA, respectively. In practice, measured daytime levels have invariably been lower than these values. This excludes places of entertainment that would be subject to a separate NIA as part of the process of obtaining a licence.

## **NOISE MITIGATION PROCEDURES**

No details are available as to the particular types of businesses that will be established within the business nodes. No specific noise control procedures can therefore be provided. The noise mitigation procedures recommended for the respective noise sensitive nodes are based on general standard good practice.

## **TOWNHOUSES, APARTMENT BUILDINGS AND RETIREMENT COMPLEX**

The layout and buildings of the Townhouses in node 13; the Single Residential in node 16; the Apartments in nodes 21h, i & j; and the Retirement complex in nodes 11b & c will likely be different. However, general noise mitigation procedures for each dwelling unit would be similar, namely, locating noise sensitive bedrooms, living spaces and balconies away from noise sources and locating less sensitive kitchens and bathrooms to form a noise buffer on the side of the dwellings facing the noise sources.

Where garages are included these would provide an effective noise barrier if located between roads and dwelling units.

An example is presented for an apartment building. The recommended mitigation procedures comprise two parts:

1. The access to each dwelling as well as bathrooms, kitchens and toilets should be along facades facing adjacent roads or business premises with all living rooms,

bedrooms and balconies facing away from the road and/or business premises. However, if windows in the facades facing roads or business premises are required to be open for ventilation, noise could intrude into the dwelling living spaces. The addition of the following procedure should then be considered.

2. The access corridors to each dwelling unit should be enclosed by a glass noise barrier similar to the example illustrated in Figure 2. In contrast to that shown in Figure 2 the access stairwells should have openings for fresh air ventilation facing away from the road and/or business premises.



**Figure 2 Access corridors to apartments fitted with glass noise barriers**

### **Additional considerations**

In the case of ground storey dwelling units it might be well to locate the access doors in the facade facing away from a road or other noise source.

The main access door all too often forms the weakest link in the intrusion of outdoor noise; particularly in low-cost housing. Hollow core doors, which often warp over time, provide very little sound insulation. They are often hung with large gaps between bottom of door and threshold thereby significantly reducing the effectiveness of any type of door to “keep out noise”.

It is recommended that all access doors be of solid, laminated timber (this equates to a fire door). The head, stiles and threshold of the door frames are to be fitted with soft,

compressible rubber strips that are to provide an airtight seal when the door is closed. This will effectively eliminate leakage of noise as well as dust and rain. It would also provide increased security against break-ins.

## **SCHOOL**

Table 1 of SANS 10103:2008 provides design and maximum rating levels for ambient noise for indoor spaces. For indoor teaching spaces these are 35 dBA and 40 dBA, respectively. On the assumption that open windows provide approximately 10 dB sound reduction, the respective outdoor rating level close to the facades are 45 dBA and 50 dBA.

In order to achieve the latter values it is recommended that school buildings containing teaching spaces be located close to the north-eastern side of the school site (node 23) with outdoor sport fields and play areas located to the west and south of the school buildings. Any separate service buildings should be located immediately west and/or south of the buildings containing teaching spaces thereby forming a noise buffer.

## **REFERENCES**

Jongens Keet Associates, July 2018. Environmental Noise Impact Assessment of portion of the proposed Haasendal development and Kuils River golf course redevelopment on erven 23580, 23579, 23582, 23583 and 23584; farm 1339; and portions 60, 64, 67, 87 and 106 of farm 222, Kuils River, western cape.

Community Services and Health Directorate Noise Control Administration, City of Cape Town, 11 February 2019. Comment on 3<sup>rd</sup> draft basic assessment report (DBAR) for Haasendal development and Kuils River golf course redevelopment on erven 23580, 23579, 23582, 23583 and 23584; farm 1339; and portions 60, 64, 67, 87 and 106 of farm 222, Kuilsriver, western cape.

Western Cape Noise Control Regulations, 2013.

SANS 10103:2008. The measurement and rating of environmental noise with respect to annoyance and to speech communication.