



GEMEENTE UTRECHT

MUZIEKPALEIS TIVOLI VREDENBURG

UTRECHT, The Netherlands

Underwriting information

PROPERTY DAMAGE

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1 GENERAL

1.1 General

1.1.1 Group Description

This location is part of the municipality of Utrecht. Het Muziekpaleis Tivoli Vredenburg is the new home of Vredenburg music venue, pop podium Tivoli and SJU Jazz Podium. In the complex five music halls with 5,500 seats are available.

The building will be fully continuous in use where a peak will be present on Saturday, Sunday and holidays in the evening will be the greatest occupation. Activities within the building will take place as follows:

- Concerts.
- Music Performances.
- Events.
- Meetings.
- Conferences.
- Diners.
- Festivals.
- Etc.

The official opening is planned on June 21, 2014.

1.1.2 Employees

In total approx 300 persons can be active when the music centre is fully operational. Opening hours are depending on the concerts and activities. In general 7 days a week the music centre is occupied.

1.2 Location

The building is located in the centre of Utrecht. The site is easily accessible. There is actually only one building in the site. The building is built from 2009 up to 2014.

At approx 8 m there is a shopping/apartment building (opposite site of a small road.). All other sites are bordered by public road or a building under construction ("Hoog Catharijne").

2 PROPERTY DAMAGE

2.1 Construction

The building comprises the old music venue Vredenburg which is completely renovated and a new part. The building with in total 12 levels (2 as cellars) has a mixed structure of steel and concrete. The old part has a concrete structure mainly. The new part has a mixed structure of concrete and steel.

Walls are made of concrete, steel, glass or polyester reinforced panels. Wall insulation is mainly mineral.

The concrete roofs of the old part are insulated with polystyrene. The roofs (concrete or steel) of the new part are applied with mineral insulation.

The total height of the building is approx 45 m. The building has an open structure with several intermediate floors. The central hall is more or less an atrium (very spacious).

For interior materials a lot of wood is used as decoration materials

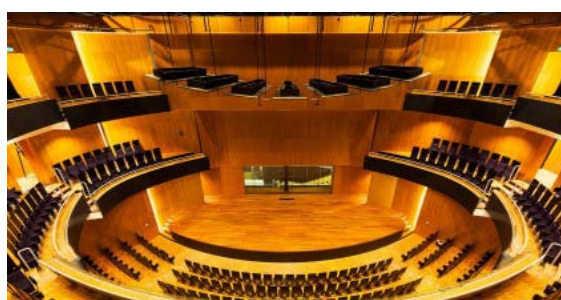
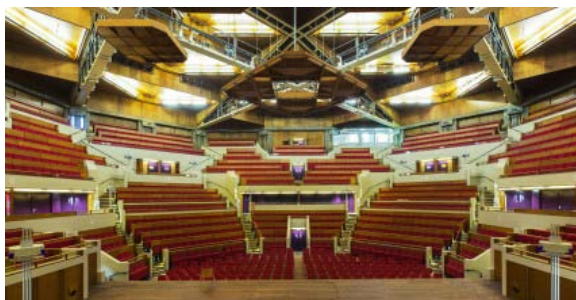
2.2 Activities

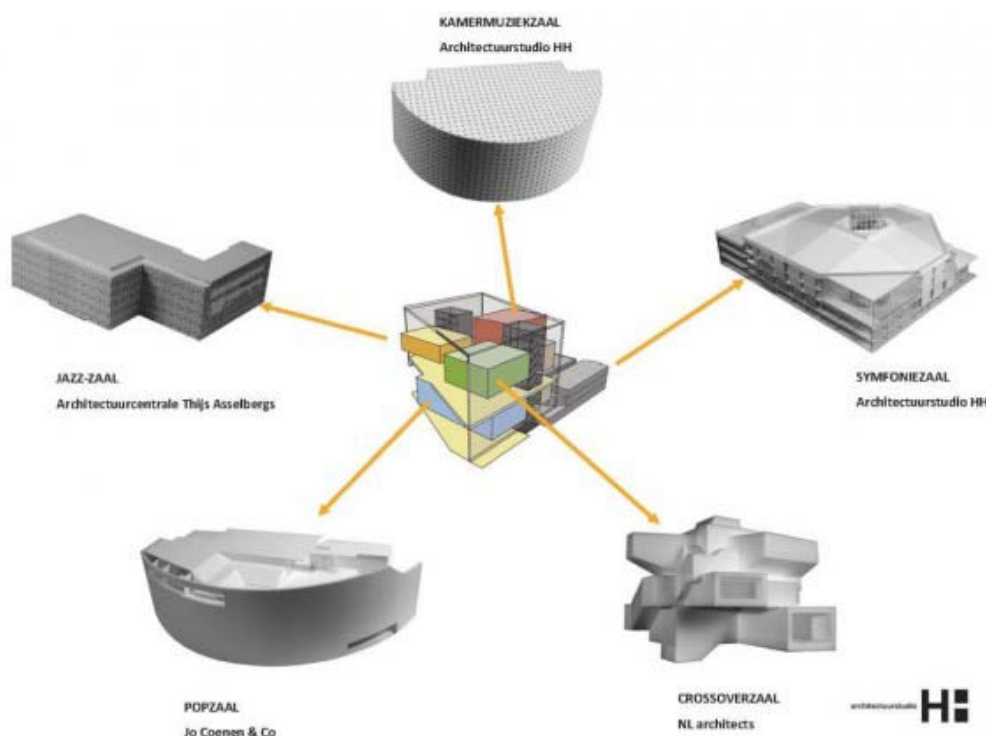
The large hall designed by architect Herman Hertzberger will be remains and there are four new halls, pop, jazz, crossover and chamber music. Loading and unloading will take place underground, above ground.

- Grote Zaal with 1700 seats (ground floor)
- Kamermuziekzaal "Hertz" with 540 seats (seventh floor)
- Popzaal "Ronda" with a capacity of 2000 persons (second floor)
- Jazz-zaal "Cloud Nine" with 400 seats (ninth floor)
- Cross-overzaal "Pandora" with 550 seats (sixth floor)

Besides the music halls there will be several café's, restaurants and established in the music hall. Moreover there will be several foyers established as part of the several music halls and several meeting and conference facilities. Also offices will be housed in the buildings.

Impression of the halls:





2.2.1 Storage

Small stores for food and beverages, small equipment are available spread out the building.

In general the storage is done safe and orderly in well-separated rooms. The fire load in the storage areas is rather high.

2.2.2 Internal Transport

For internal transport purposes use is made of electrical fork lift trucks, Battery charging is done in a safe manner, not representing specific hazardous situations.

2.3 Utilities

2.3.1 Locality Heating

Comfort heating is achieved by heat exchangers, located in the basement, heated by the district heating system or the WKO installation. The rooms are heated by LP warm water heated systems. Comfort heating hardly represents a fire hazard.

2.3.2 Electricity

Electricity is supplied by the public utility grid at 10 kV. In total there are two transformers available each with a capacity of 1.600 kVA. For emergency purposes there are two diesel driven emergency generators available (capacity 640 kVA each).

The electrical installation will be maintained by external specialists. The electrical installation is not inspected by third parties yet (totally new building). Thermographic scanning of the electrical installations is not taken place yet.

2.3.3 Gas

There is no gas connection.

2.4 Fire Protection

2.4.1 Public Fire Brigade

The nearest fire station to be alerted is the fully paid fire brigade of Utrecht. Anticipated is that the fire brigade will be able to start their first attack within 15 minutes after being alarmed. A plan of attack will be set up.

2.4.2 Alarming

The fire brigade has to be alarmed by telephone. The fire brigade can also be alarmed by the automatic fire detection system installed in all buildings. Activation of the sprinklers present in all buildings automatically generates an alarm transmitted directly to the central alarm station of the fire brigade. A fire alarm can also be given by push buttons, installed in the building. A fire alarm is made clear to plant's employees by means of acoustic signals and is also made visible on the main alarm panel located in the porter's lodge/reception desk.

2.4.3 Water Supply

The public water supply for fire fighting purposes is limited to chuck hydrants in the surrounding streets.

2.4.4 Private Fire Brigade

The emergency response team will be arranged after opening.

2.4.5 Dry/wet Risers

At several places dry risers have been installed: with a connection for the fire brigade and a supply point on each level.

2.4.6 Hose Reels

Hose reels, connected to the city watermain, are installed in the buildings. The supplier yearly maintains the hose reels.

2.4.7 Hand Held Appliances

A sufficient number of hand extinguishers is installed in the buildings according to local rules. The supplier yearly maintains the hand extinguishers.

2.4.8 Automatic Sprinkler Systems

The building is fully protected by sprinklers. The sprinkler system is installed according the VAS rules 1996 edition for the general areas and FM 3-26 rules 2006 en 2011 edition for the areas higher than 18 m. The sprinkler system will be certified the recognized inspection body R2B.

Design criteria:

Ontwerpgegevens	Expeditie	Ruimten welke worden gebruikt voor opslag	Jazz-zaal, Grand Café, kantoren en overige ruimten welke lager zijn dan 12 m
Gevarenklasse	H 7,5	H 7,5	N III
Minimale sproeidichtheid	7,5 mm/min	7,5 mm/min	5 mm/min
Maximum sproeivlak	325 m²	260 m²	216 m²
Type sprinkler	Spray/normaal	Spray/normaal	Spray/normaal
K-factor	Ca. 80	Ca. 80	Ca. 80
Aanspreektemperatuur	68 °C	68 °C	68 °C
Reactietijd	Normaal A	Normaal A	Normaal A
Minimale sproeitijd	90 min	90 min	60 min
Soort installatie	Droog	Nat	Nat
Voorschrift	VAS tabel 4	VAS tabel 4	VAS bijlage 2 tabel B2-2

Tabel 9

Ontwerpgegevens	Kern oost/west en overige ruimten welke hoger zijn dan 12 m	Dakoverstek aan zuid- en westzijde	Lichtkoepel in symfoniezaal
Gevarenklasse	N IV	N III	N III
Minimale sproeidichtheid	5 mm/min	5 mm/min	5 mm/min
Maximum sproeivlak	360 m²	270 m²	216 m²
Type sprinkler	Spray/normaal	Spray/normaal	Sidewall
K-factor	Ca. 80	Ca. 80	Ca. 80
Aanspreektemperatuur	68 °C	68 °C	68 °C
Reactietijd	Normaal "A"	Normaal "A"	Normaal "A"
Minimale sproeitijd	60 min	60 min	60 min
Soort installatie	Nat	Droog	Anti-vries
Voorschrift	VAS bijlage 2 tabel B2-2 FM 3-26 tabel 11	VAS bijlage 2 tabel B2-2	VAS bijlage 2 tabel B2-2

Tabel 10

Ontwerpgegevens	Symfoniezaal, Popzaal, Cross-overzaal, Kamermuziekzaal
Gevarenklasse	HC-1
Minimale sproeidichtheid	8 mm/min
Maximum sproeivlak	230 m²
Type sprinkler	Spray
K-factor	Ca. 115
Aanspreektemperatuur	68 °C
Reactietijd	Quick Response
Minimale sproeitijd	60 min
Soort installatie	Nat
Voorschrift	FM 3-26 tabel 2

Tabel 11

The water supply comprises one electrical and one diesel driven fire pump taking suction from a clear water basin with a content of 360 m³. Pump capacities: diesel: 140 m³/h at 7.8 bar; electrical: 140 m³/h at 8.2 bar.

The probability of a substantial (property) loss limiting effect due to the presence of the automatic sprinkler system is considered being high

2.4.9 Automatic Gas Extinguishing System

The MER room in the basement has been provided with an automatic gas extinguishing system activated by a smoke detectors (two detectors must be activated).

2.4.10 Automatic Fire Detection System

The buildings covered by an automatic smoke/fire detection system (fully coverage) The detection system is installed according the NEN 2535 rules and will be certified. Both point detectors as well as aspiration system have been installed.

2.4.11 Partitions

The building is divided into several fire separated compartments in conformity of the Dutch building regulations. Low-rated fire separations (in general 60 minutes) are available. Doors openings are provided with self closing fire doors which are opened by magnetic contacts and closed automatically in case of a fire alarm (activated by the fire detection system).

Cable and piping penetrations are sealed of correctly by non combustible materials.

In relation with the fire load present, the fire resistance of the separations available in the building are considered to have an adequate loss limiting effect under normally to be expected (fire) conditions.

2.4.12 Lightning Protection

Buildings have been provided with lightning conductors. The lightning conductor system has been designed and installed in accordance with NEN 1014. Regular maintenance will be performed by external specialists.

2.5 Management Aspects

2.5.1 Smoking Regulations

There is a formalized smoking ban in he building. The smoking ban is well observed.

2.5.2 Waste Handling

The collected waste is located the basement of the building and stored in closed metal containers. Waste is removed at regular intervals. Waste handling is well taken care of and storage thereof is well organised.

2.5.3 Hot Work Permit System

A hot work permit system is in force. Strict procedures including a written permit are in place

2.5.4 Self Inspection

There are no regular self inspections.

2.5.5 Emergency Organisation

An emergency organisation and plan will be set up after the occupancy is operational.

2.6 Other Perils

2.6.1 Explosion

There is real no possibility for explosion within the facility.

2.6.2 Impact, Collision

Trucks are loaded and unloaded in the shipping area of the building (basement; -2). Normal risk.

2.6.3 Burglary

Burglary prevention is based on organizational structural and electronic measures. The electronic burglary/intruder alarm system comprises a/o door contacts on all exterior doors, passive infrared detection, Alarms are transmitted to the porter's lodge, Alarm follow-up is arranged by a private security organisation There is a continuously guard service available. An extensively CCTV system is available.

2.6.4 Riot, Civil Commotion, Vandalism, Malicious Mischief

The object is situated close to the centre of Utrecht. No specific measures have been taken against vandalism. Hazards like riot, civil commotion etc. is considered to be low in this part of the country.

2.6.5 Aircraft

The nearest airport is Schiphol, located at approx. 35 km, north-east of the plant. This is an international airport. The facility is not located in the direction of one of the takeoff / landing lanes.

2.6.6 Collapse

Buildings did not show any features indicating a collapse potential. Normal risk

2.6.7 Windstorm

Unusual circumstances and/or abnormal wind velocities are not to be reported for this area. Buildings generally are normal till light-constructed and generally are normal-susceptible to the windstorm hazard.

2.6.8 Earthquake

According to report of C.K. Stiff (July 1970)/ H.F. Lewis (October 1977), the facility is situated in a 'Zone 1000' which indicates the return periods in years for earth quakes. Low risk

2.6.9 Flooding

The site is located at an altitude of + 3.7 meters related to sea level. Normal risk. There's no flooding exposure related to a sea. The site is not located close to rivers/brooks/lakes that may cause flooding of it. Low risk.

2.7 Values And Loss Estimates

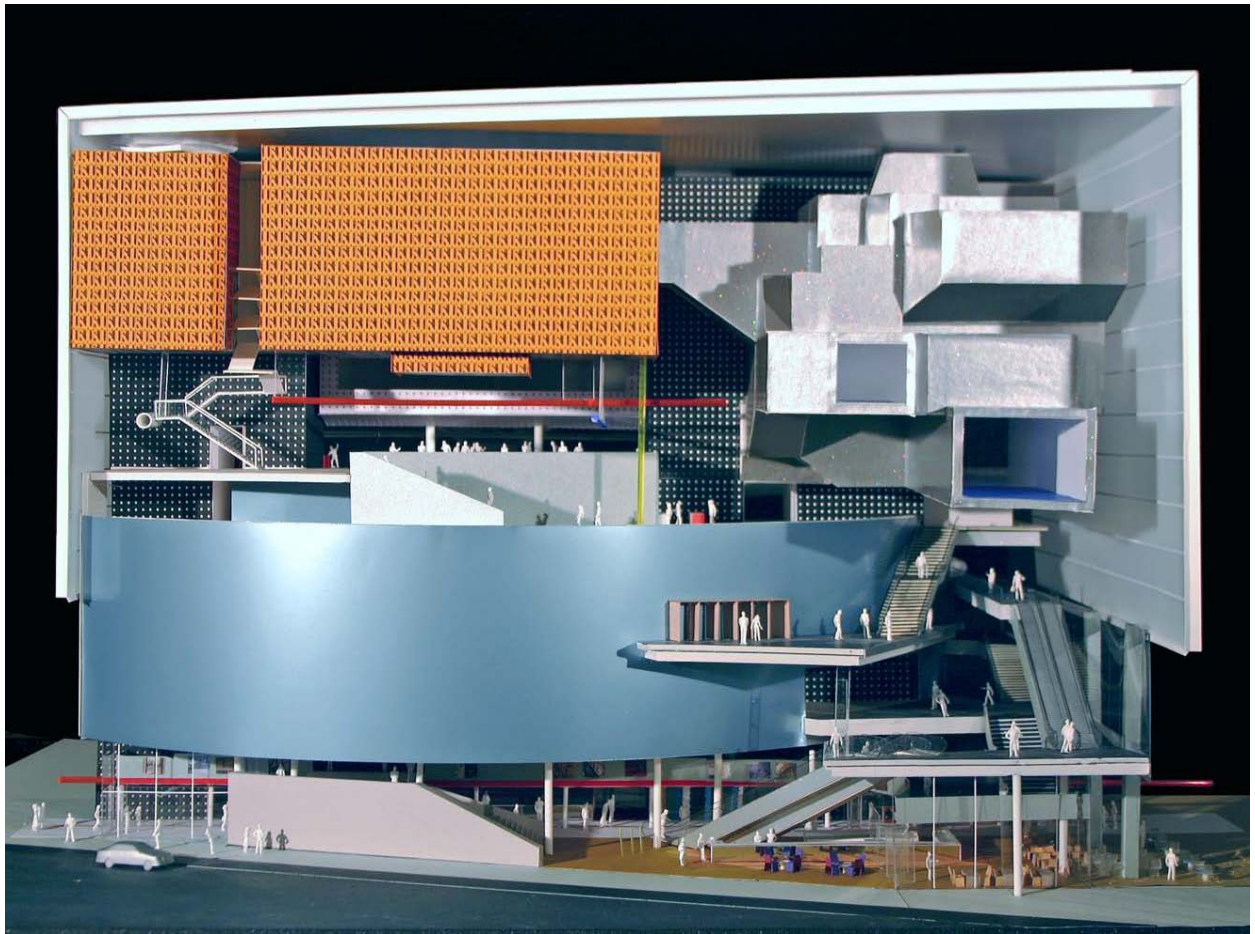
Line	Section	Value	Currency	Value Source	EML (%)	PML (%)	MPL (%)	LE Source
Property	Buildings	115,000,000	EUR	Aon	5	30	100	Aon Risk Control

Section	EML (%)	PML (%)	MPL (%)
Material Damage	5	30	100
Business Interruption	N.A.	N.A.	N.A.
Combined (Property)	5	30	100

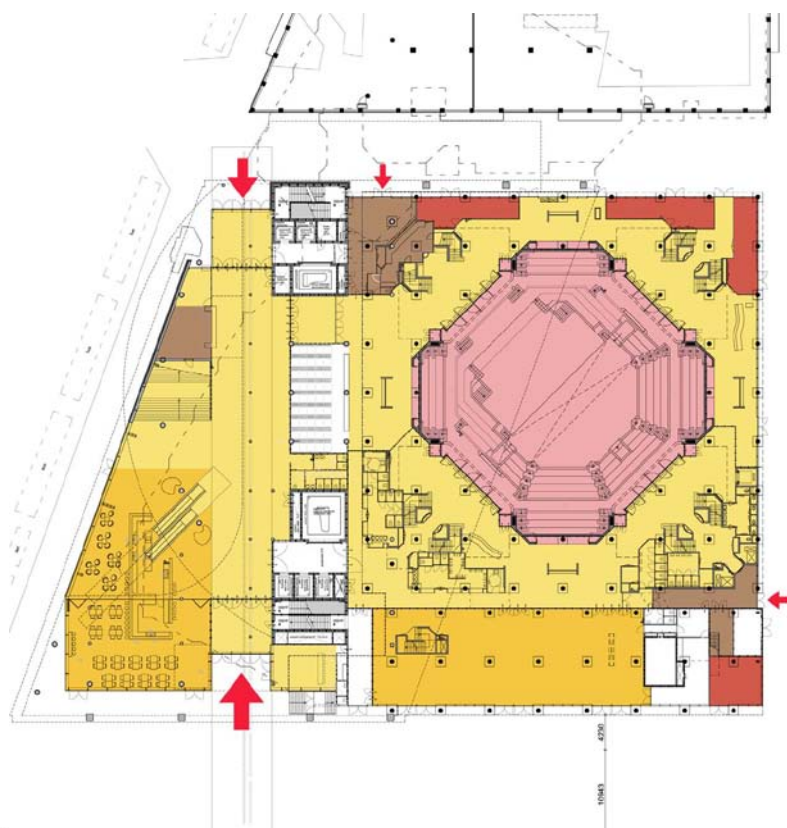
Name	Definition	Scenario
EML (%)	EML=Estimated Maximum Loss (CEA, 1999) The Estimated Maximum Loss is that which could reasonably be sustained from the contingencies under consideration, as a result of a single incident considered to be within the realms of probability taking into account all factors likely to increase or lessen the extent of the loss, but excluding such coincidences and catastrophes which may be possible but remain unlikely.	It is estimated that a fire and/or explosion originating in one of the buildings could result in an EML of approx. 5 % of the total plant value. A fire starting anywhere in this complex is expected to be controlled by the adequate sprinkler protection. The fire will be limited to the maximum area of operation. Nevertheless some smoke and water damage must be expected.
PML (%)	PML = Probable Maximum Loss Probable Maximum Loss is an estimate of the largest loss from a single fire or peril to be expected, assuming the worst single impairment of primary private fire protection systems but with secondary protection systems or organizations (such as emergency organizations and private and/or public fire department response) functioning as intended. Catastrophic conditions like explosions resulting from massive release of flammable gases, which might involve large areas of the plant, detonation of massive explosives, seismic disturbances, tidal waves or flood, falling aircraft, and arson committed in more than one area are excluded in this estimate.	Under PML circumstances a loss off approx 30% is to be estimated. Scenario: fire started in the "Grote Zaal": Taking into consideration the impaired suppression system. Due to the fire load mainly formed by the used combustible decoration and/or construction materials the fire will spread out over the entire area rather quick. Fire spread to adjacent areas is not to be expected due to the fire separations. The fire brigade will be alarmed by the installed automatics fire detection system and is able to control the fire to a certain extend. A severe damage to this area is to be expected.
MPL (%)	MPL = Maximum Possible Loss (CEA 1999) The Maximum Possible Loss is that which may occur when, the most unfavourable circumstances being more or less exceptionally combined, the fire is only stopped by impassable obstacles or lack of substance.	Excluding catastrophic loss conditions (e.g. plane crash) it is estimated that a fire and/or explosion originating in one of the buildings could result in a MPL of approx. 100% of the total building. As no perfect firewalls are present in this complex the theoretical MPL scenario would be a total loss of the complex is expected. However a more realistic scenario is given under the PML scenario.



Muziekpaleis Tivoli Vredenburg - UTRECHT
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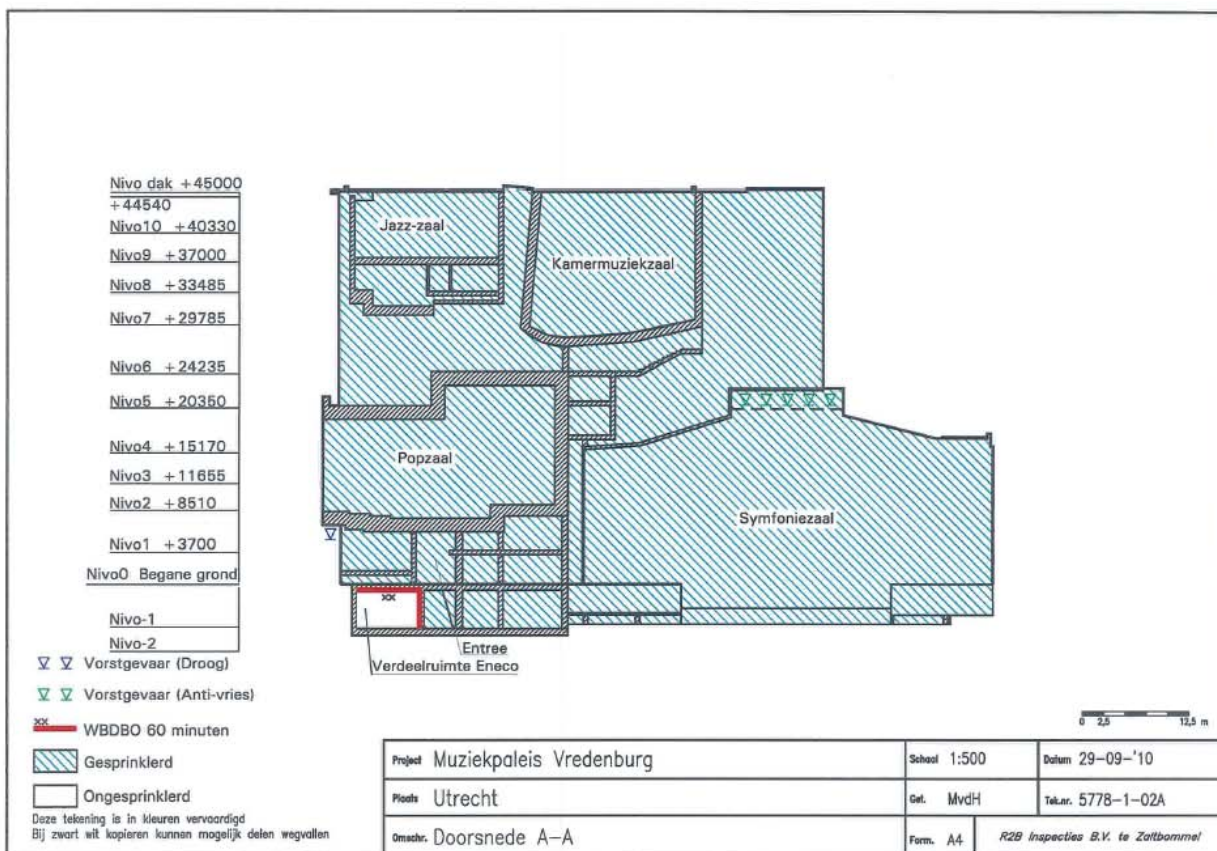
DOORSNEDEN

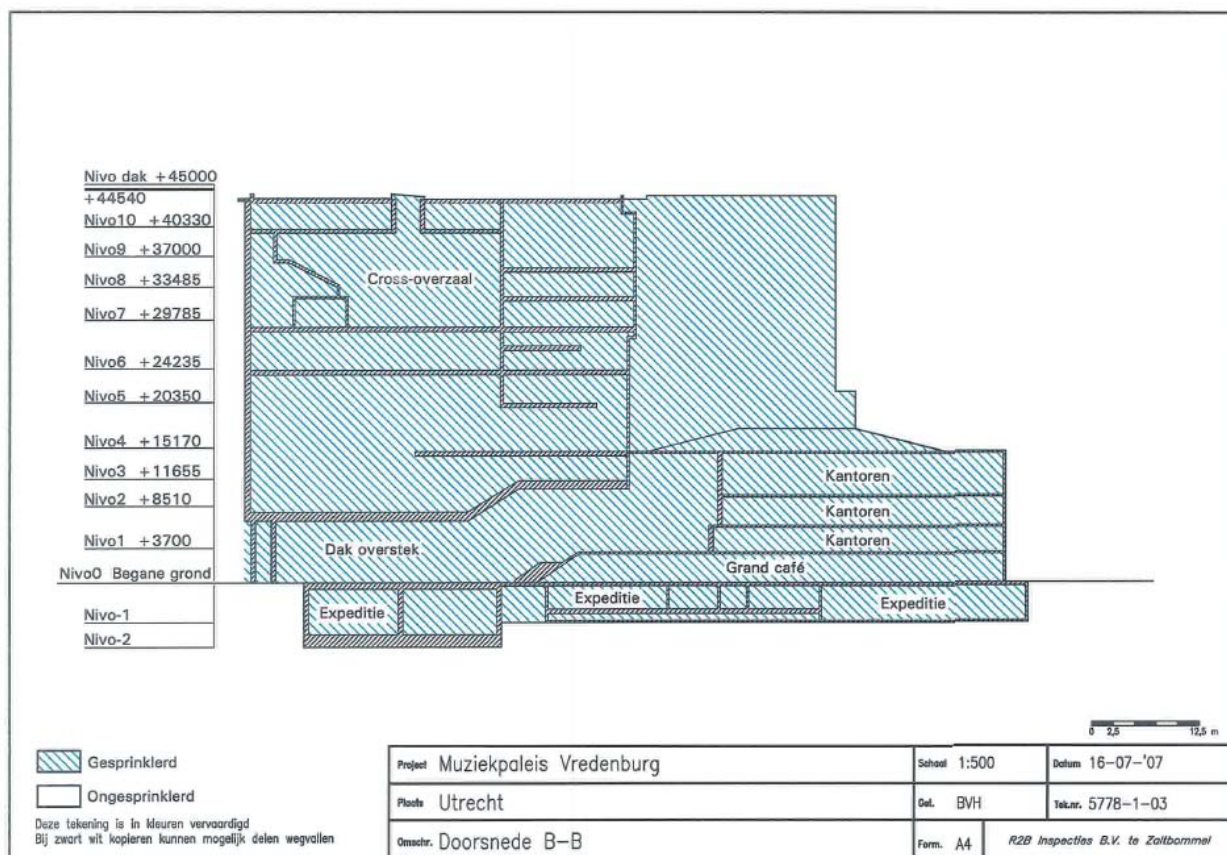


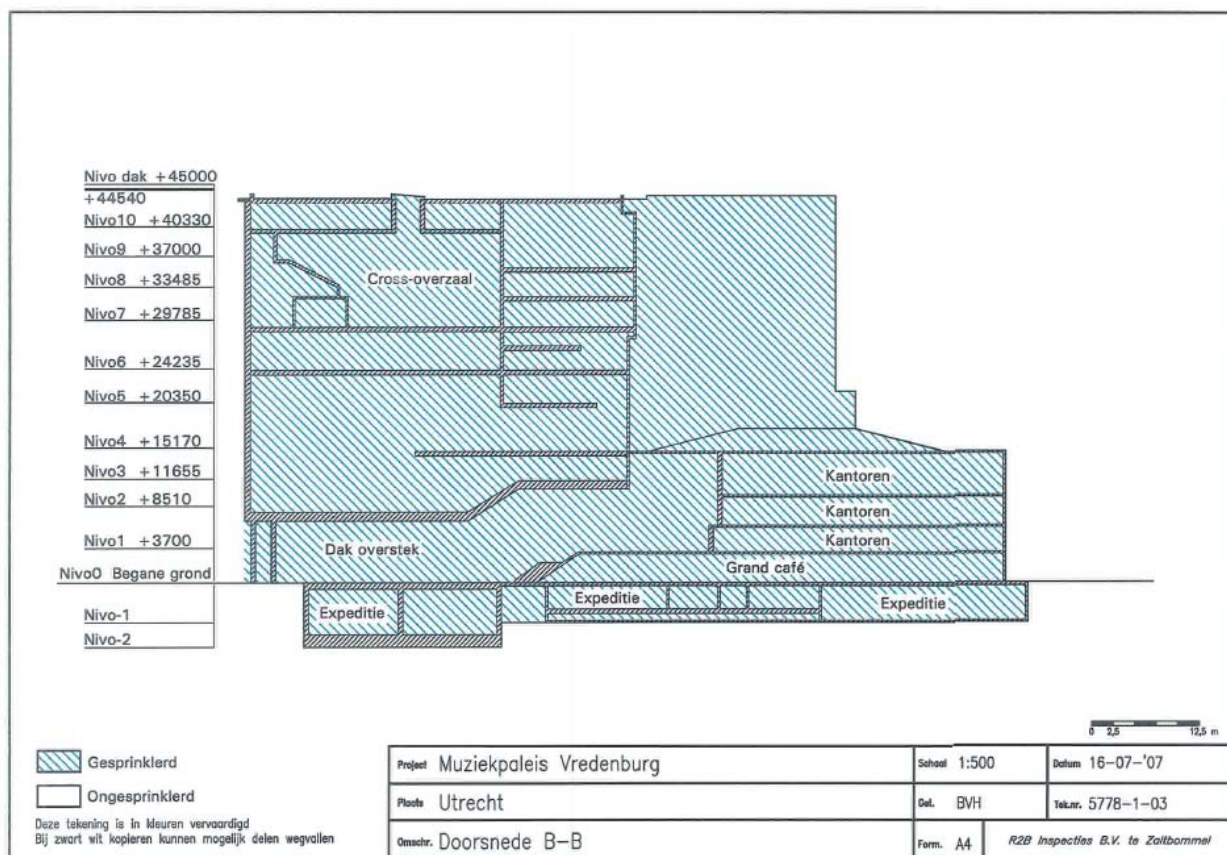
Gebouwindeling

Verdieping (niveau)	Nadere omschrijving
Niveau -2 (-6.100 + P)	Expeditie (niveau -2 tot 0)
Niveau -1 (-3.400 + P)	Techniek Verdeelruimte (Eneco) Computerruimte (MER/CER) Ondertoneel Symfoniezaal Opslag verschillende zalen
Niveau 0 (0.000 + P)	Grand café Terras Grand café Keuken Grand café Symfoniezaal (niveau 0 tot 5) Foyer Symfoniezaal (niveau 0 tot 5) Garderobe Symfoniezaal Entreehal (niveau 0 tot 2) Voorruimte (niveau 0 tot 4) Kern oost/west (niveau 0 tot dak)
Niveau 1 (3.700 + P)	Symfoniezaal (niveau 0 tot 5) Foyer Symfoniezaal (niveau 0 tot 5) Garderobe Popzaal Kantoren Entreehal (niveau 0 tot 2) Voorruimte (niveau 0 tot 4) Kern oost/west (niveau 0 tot dak)
Niveau 2 (8.510 + P)	Symfoniezaal (niveau 0 tot 5) Foyer Symfoniezaal (niveau 0 tot 5) Popzaal (niveau 2 tot 6) Techniek Kantoren Voorruimte (niveau 0 tot 4) Kern oost/west (niveau 0 tot dak)
Niveau 3 (11.655 + P)	Symfoniezaal (niveau 0 tot 5) Foyer Symfoniezaal (niveau 0 tot 5) Popzaal (niveau 2 tot 6) Techniek Kantoren Voorruimte (niveau 0 tot 4) Kern oost/west (niveau 0 tot dak)
Niveau 4 (15.170 + P)	Symfoniezaal (niveau 0 tot 5) Foyer Symfoniezaal (niveau 0 tot 5) Popzaal (niveau 2 tot 6) Voorruimte (niveau 0 tot 4) Kern oost/west (niveau 0 tot dak)
Niveau 5 (20.350 + P)	Theater techniekruimte Keuken/horeca Popzaal (niveau 2 tot 6) Garderobe kamermuziekzaal Kern oost/west (niveau 0 tot dak)

Niveau 6 (24.235 + P)	Restaurant Foyer Kamermuziekzaal Foyer Jazz-zaal Foyer Cross-overzaal Kern oost/west (niveau 0 tot dak)
Niveau 6+ (27.010 + P)	Restaurant Kamermuziekzaal (niveau 6+ tot dak) Foyer Kamermuziekzaal Foyer Jazz-zaal Foyer Cross-overzaal Kern oost/west (niveau 0 tot dak)
Niveau 7 (24.235 + P)	Kamermuziekzaal (niveau 7 tot dak) Foyer Kamermuziekzaal (niveau 7 tot dak) Cross-overzaal (niveau 7 tot dak) Foyer Cross-overzaal (niveau 7 tot dak) Foyer Jazz-zaal Kern oost/west (niveau 0 tot dak)
Niveau 8 (33.485 + P)	Kamermuziekzaal (niveau 7 tot dak) Foyer Kamermuziekzaal (niveau 7 tot dak) Cross-overzaal (niveau 7 tot dak) Foyer Cross-overzaal (niveau 7 tot dak) Foyer Jazz-zaal Techniek Kern oost/west (niveau 0 tot dak)
Niveau 9 (37.000 + P)	Kamermuziekzaal (niveau 7 tot dak) Foyer Kamermuziekzaal (niveau 7 tot dak) Cross-overzaal (niveau 7 tot dak) Foyer Cross-overzaal (niveau 7 tot dak) Jazz-zaal (niveau 9 tot dak) Foyer Jazz-zaal Techniek Kern oost/west (niveau 0 tot dak)
Niveau 10 (40.330 + P)	Kamermuziekzaal (niveau 7 tot dak) Foyer Kamermuziekzaal (niveau 7 tot dak) Cross-overzaal (niveau 7 tot dak) Foyer Cross-overzaal (niveau 7 tot dak) Jazz-zaal (niveau 9 tot dak) Foyer Jazz-zaal Techniek Kern oost/west (niveau 0 tot dak)
Dak (44.540 + P)	Ventilatie kasten e.d.







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