CPM Waterproofing Ltd
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Report Date: 06/09/2016

Ref: ENQ16152

SURVEY REPORT

CLIENT Dear Mr & Mrs Morgan

PROPERTY ADDRESS

47 Albert Street
London
NW1 7LX

SURVEYED BY Paul Moody CSSW CSRT **DATE OF SURVEY** 06/09/2016

Directions are as if facing front elevation unless otherwise stated

PLEASE READ CAREFULLY THE CONTENTS OF THIS REPORT, THE FOLDER AND ALL ENCLOSURES WHICH ALL FORM PART OF THE CONTRACT OFFER.

Property Description	Terraced Town House
Occupied Status	The property was unoccupied at the time of our inspection.
Weather Conditions	At the time of our inspection it was dry.

RISING DAMP

To the walls scheduled below.

Please read carefully, in conjunction with this report, the Important Notes, enclosures, standard work specifications and the for Action by Client document, as these all form part of our Contract offer.

External Observations (from ground level)

We understand as part of the scope of works the main contractor will be overhauling all of the external defects and making the necessary repairs.

The external waterproofing to the lower section of the front elevation basement level will be replaced as part of the waterproofing works as detailed in the recommendation section of our report.

External Render
Render to the front elevation was cracked and defective.

Hollow and de-bonded external render was also evident to the front elevation.

External Joinery
Sealing around the windows appeared to be defective.

Abutting structures/walls
The garden walls abutting the front and rear elevation is resulting in lateral penetration.

The problem is being exacerbated by defective brick pointing and render.

Internal Observations

Unless otherwise stated our inspection of internal areas was restricted to the lower ground floor areas as indicated on the enclosed sketch plan and to the front vaults only, and is limited accordingly.

Our inspection was restricted in some areas due to fixings and floor coverings and our recommendations are limited accordingly.

Damp Proof Course (dpc)
At the time of our inspection visible signs of dampness, supported by moisture profile readings obtained with an electronic moisture meter, indicated the presence of rising dampness to those walls indicated for treatment on the attached sketch. The rising dampness appears to be due to the failure and deterioration of the existing damp proof course.

Plaster & Salts
As the moisture rises from the ground into a wall, it carries with it soluble salts which may be deposited in the wall fabric and plaster, as the moisture evaporates. Certain of these salts, in particular chlorides and nitrates, are hygroscopic; that is, they are capable of attracting and absorbing moisture from the atmosphere when the relative humidity is high.

Areas of plaster were noted to be generally in poor condition and to be breaking down due to salt action, the light weight plaster that has been applied to the wall surface is exacerbating the dampness.

Effects

The defects noted from our inspection above will or are likely to allow moisture to be transmitted into the building fabric. Not only is this likely to spoil and damage internal finishes and decorations, but it will also put timbers within the property at serious risk from fungal decay and damage the building fabric itself. We strongly advise that you arrange for all the above noted defects to be attended to.

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Recommendations

We have detailed below the items of work that CPM Waterproofing will be pleased to undertake for you, together with quotations.

We would recommend that you engage a reputable Building contractor to fully inspect and undertake repairs to all the remaining defects that are noted.

Damp Proof Course
Install a chemical damp proof course incorporating our CPM Waterproofing Diffusion Process to those walls indicated on the sketch. Our quotation for this work is enclosed.

Replastering
Internal plaster which subsequently becomes affected by hygroscopic salts during the drying out period should be treated in accordance with our specification for a salt retardant re-plastering. The client should appreciate that re-plastering and/or re-decoration may ultimately be required in some or all of the treated

areas. In the meantime, any decorations should be regarded as temporary and should be vapour permeable non-vinyl

To control rising dampness in a wall, in addition to the proposed DPC it is of great importance that internal plaster is capable of preventing hygroscopic salts affecting the wall surface.

Our recommendations and comments are as follows: -

CPM Waterproofing are to: -

Hack-off and remove existing plaster from the areas and heights indicated on the attached sketch, and clear resultant debris from site.

It is recommended that the wall areas indicated on the sketch are re-plastered, strictly in accordance with our specification for salt retardant re-plastering to the even height detailed.

Lateral Penetration
A Salt Retardant should not be used alone as a waterproofing medium in areas where adjacent ground levels are higher.

Where levels are higher a recognised waterproof system should be applied strictly in accordance with the manufacturer's instructions.

CPM Waterproofing are to: -

Hack-off and remove any remaining plaster from the areas and heights indicated on the attached sketch, and clear resultant debris from site.

Prepare the exposed masonry to receive a cementitious render additive.

The application of a multi-coat cementitious 1 renders system incorporating: -

Deep seal chase to the wall floor junction as required to correctly seal the system in to the slab/tiles.

The cementitious additive is an aqueous solution containing complex colloidal silicates. In the presence of water these swell and block the capillaries and pores in the applied sand/cement renders, screeds and mortar to provide an effective barrier against the transmission of liquid water.

After re-plastering, hairline cracking of the setting coat may occur. This will not present a problem regarding the efficiency of the new plaster and should be made good when decorating.

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Our quotation allows for up to a nominal thickness of between 12 to 20mm unless otherwise stated. Any additional areas and dubbing out in excess of 20mm will be charged as an extra at pro rata rates.

External rendering
We would advise that the render to the front elevation lower ground floor level as indicated on the enclosed sketch plan be removed and replaced utilising a waterproof sand and cement. The render finish will be rubbed up ready for decoration by others.

Preparation by Main Contractor

You should arrange for the following preparatory work to be undertaken in the treatment areas, as stated below and/or as identified on the attached sketch. This should be completed prior to our arrival on site. If you have any doubts concerning preparation, please don't hesitate to contact our office for clarification. NOTE: Please do not arrange for these items to be re-instated until the completion of CPM Waterproofing contracted works.

Removal of fixings, furniture and floor coverings from treatment areas.

Isolate electrical sockets.

Skirting

Where internal DPC, re-plastering, wall/floor joints or waterproofing works have been specified, it will be necessary for existing skirtings to be removed and subsequently replaced after the works have been undertaken.

Remove existing skirting boards as required to undertake the treatment works and reinstate on completion of our works.

Remove radiators to allow for remedial works to proceed and re-hang upon completion.

Important Information – Client to Note

The installation of a DPC and or any associated re-plastering is regarded as a Wet Trade.

It is therefore essential that you remove any floor coverings prior to our arrival to undertake the work.

If for any reason floor coverings remain in situ and become damaged, no responsibility will be accepted by CPM Waterproofing.

We will take the precaution to minimise this nuisance where practical within the immediate area of our work but we respectfully suggest that you should also take some precautions to protect furniture and the like elsewhere in the property.

No responsibility will be accepted by CPM Waterproofing for cleaning or any damage caused by dust.

Existing or renewed internal or external plaster/render should not be allowed to form a 'bridge' over the damp proof course. Wall plaster/render should stop above the line of the damp proof course, unless of a waterproof nature.

Where our work is to be carried out internally we require you to arrange for the removal of carpets, furnishings, fixtures and fittings, from walls designated for Damp Proof Course insertion and/or re-plastering. This work MUST be done prior to our arrival on site.

Whilst any general building and ancillary works undertaken by CPM Waterproofing are excluded from any treatment guarantees issued, you will of course be protected by your statutory rights under The Consumer Protection Act 1987.

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Necessary “dubbing out” will be charged at £30 + V.A.T. per square metre for each additional 15mm thickness or part thereof.

At the time of the inspection, it was not possible to ascertain the construction of the brickwork or the nature of the mortar joints. Our estimate is therefore based on the brickwork being level, in sound condition and bonded with mortar of a non-friable nature. If therefore, during the course of the work specified, extra work is found to be necessary, the client will be notified and an additional charge made.

Upon removal of the existing wall plaster or render it may be discovered that an excessive amount of materials have been applied to bring the wall out to level. Under such circumstances additional labour and material costs will be incurred.

Guarantee

Upon completion of the contract our **20 Year Guarantee** will be issued, protecting you against the recurrence of dampness rising through our damp proof course, offering you peace of mind for your property in the future. Whilst any general building and ancillary works undertaken by CPM Waterproofing are excluded from any treatment guarantees issued, you will of course be protected by your statutory rights under The Consumer Protection Act 1987.

Cementitious information

UNDER NO CIRCUMSTANCES IS THE WATERPROOFING SYSTEM TO BE HACKED OFF OR CHASED AFTER COMPLETION.

Fixing to or Through Waterproofing Systems

Skirting boards in all cases of waterproofing should be re-fixed using a good quality adhesive only. They should also be primed or treated against moisture penetration or decay on the contact surfaces.

Under no circumstances should the cementitious waterproofing system be punctured by fixings.

Fixing points should be pre-determined where necessary so that these can be rendered behind and subsequent fixing pads adhered in place on completion of the rendering.
Where a “dry environment” is required, it is essential that efficient through ventilation be provided. At the same time, consideration should also be given to the provision of an adequate dry form of heating and/or dehumidification system. (Such work is not included in our quotation).

Where rendering has been applied as part of the work heating/dehumidification must not be applied for a minimum period of 28 days and thereafter gradually to allow for curing.

The quotation assumes the brickwork under the existing surface to be sound enough to directly accept the waterproofing system. Frequently, while preparing the wall, it is found that other works are necessary, or we may need to change the specification. Such alterations are not allowed for. Should they be found to be necessary, a supplementary quotation will be prepared prior to undertaking the work.

The renderings used in the waterproofing system will be applied free hand and will follow the natural contours of the walls. Should a true, flat surface be required, dubbing out may be necessary. This is not included in our quotation. If it is required, please contact us immediately.

Necessary “dubbing out” will be charged per square metre for each additional 15mm thickness or part thereof.

The nature of waterproofing is such that soon after completion, further work may be necessary to overcome some leaks. Naturally, any such work is included in our quotation. However, we will not be liable for any disturbance or delays, as a result of this work.

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In very simple terms, our waterproofing system works on the principal that the moisture it contains will evaporate from within the system faster than it will actually pass through, thus leaving a dry surface. **It is vitally important therefore, that no surface decoration, which could significantly impede the passage of water vapour be applied.** To this end we only recommend the use of vapour permeable emulsion. Other decorative finishes are NOT suitable.

When the waterproofing system is new, it is of vital importance that it is allowed to dry out slowly. Rapid drying out will cause cracking and a breakdown of the system. Heat or dehumidification should not be used at all for at least twenty-eight days. Thereafter, it should only be applied gradually. **SUDDEN** changes in temperature or humidity, at any time, can cause cracking and result in penetration of moisture.

During the curing period, moisture evaporating may form on the surface as water droplets. This will eventually disappear, but it is important, especially during the first twenty-eight days, that this moisture is left alone and not removed to assist the cure.

As you will appreciate, the very nature of our work will involve disturbance from noise and dust. This dust pervades the atmosphere and covers a very large area. Whilst care will be taken we cannot accept responsibility for furniture, fittings, floor coverings, etc left within the area affected by dust. The client should consider the welfare of any occupiers within a close proximity to the work areas.

All building services detailed in the report to be undertaken by others should be provided to us free of charge.

No responsibility will be accepted by CPM Waterproofing Ltd for cleaning or any damage caused by dust.

Guarantee

Upon completion of the contract our **5-Year Guarantee** will be issued, protecting you against the recurrence of water penetration through our waterproofing, offering you piece of mind for your property in the future.

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WATERPROOFING

To the walls scheduled below.

Please read carefully, in conjunction with this report, the Important Notes, enclosures, standard work specifications and the for Action by Client document, as these all form part of our Contract offer.

Thank you for inviting us to submit a costing for the specialist works identified below to the above Property. A brief specification of the proposed work is given below. If there are any omissions, or if you believe we have misinterpreted your instructions, please let us know at once.

SPECIFICATION OF PROPOSED WORKS

Walls
To comply with BS8102 we must assume that hydrostatic water pressure is a major contributory factor of the dampness to the walls.

Floors
To comply with **BS 8102,** it will be necessary for the structural slab to have the ability to withstand any upward forces exerted by hydrostatic pressure.

Moisture Sources

The conditions below are typical examples of moisture sources that exacerbate lateral penetration and that we propose to waterproof.

Earth retaining walls

Dampness rising through the floor

Moisture penetrating through the wall/floor junction

Design Criteria

BS 8102: 2009 (Code of practice for protection of below ground structures against water from the ground)

Waterproofing to basements/underground structures is covered by British Standards document BS 8102: 2009. This document specifies the performance level for the design of the waterproofing based upon the end use of the basement, grading from 1-3.

In this instance as the basement is to be used for a habitable environment then the particular grade is 3. Performance at this grade as specified by BS 8102:2009 assumes use for a habitable purpose.

In view of our surveyor's observations and his concern about the presence of hydrostatic pressure the specification has been designed taking into consideration the recommendations of **BS 8102:2009**.

The Proposed System Details and Work Specifications

We have been instructed in this instance to install a Cavity Drained Membrane System to the areas indicated on the enclosed plan.

The British standard identifies that a drainage cavity system is the safest method available for those seeking maximum assurance against system failure. This is because ground water is controlled, diverted and harmlessly removed rather than being blocked at the point of entry. Consequently, the risk of increased Hydrostatic pressure is reduced, whereas directly applied systems generally increase the level of hydrostatic pressure imposed on the structure.

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System Overview

In consideration of the above, proposals for Remedial Works include for the following to indicated areas only: -

AREA

Under pavement vaults and rear reception rooms as indicated on the enclosed sketch

The installation of a cavity drainage membrane system incorporating: -

Perimeter drainage

Sump and Pump (Single) to rear reception rooms with alarm

Double Sump Pump to Vaults with battery back-up and alarm

Wall to floor joint sealing

Plasterboard lining (vaults only rear reception room is membrane only)

The cavity drain system is designed to control both water vapour and the penetration of ground water. Once the system is in place, three main functions are achieved. Firstly, the system controls vapours, secondly damp pressure is equalised and thirdly, the system will act as a drained cavity system, controlling water ingress.

A cavity drainage system is the most sympathetic system that can be applied to the structure, as it will not induce any additional stresses as a result of increased water pressure.

The cavity drain system that we recommend is a sealed system with pre-formed drainage channels diverting incoming water to collect into a sump chamber where it will be pumped to an external drainage point.

Work to be completed by the Main Contractor: -

Isolate electrical circuits and remove switches and sockets from the area of work.

Remove all obstacles from the rooms specified for treatment.

Remove any fixtures, fittings or any other items preventing full access to the areas of application.

Wall Membrane
Provide and fix cavity drained membrane to all walls as indicated on the attached plan as follows: -

An 8mm cavity membrane system is to be fixed to the wall surfaces with specialist fixings. For this purpose, a sealed plug is used. The plug has a dual purpose; fixing the membrane system to the wall

surface and allowing studding/battens to be secured when specified, without piercing the installed system where appropriate alternatively stud walls can be erected in front of the membrane system.

All joints where flanged sections are located will be sealed with Vapourseal tape. Where studded sections meet, Vapourseal rope will be used.

Where services (pipework etc.) protrude through the system at the time of installation a seal will be created using either bitumen rope or mastic.

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Floor Membrane
Provide and fix an 8mm floor membrane which will be joined to the wall membranes using the appropriate compression tape. We have selected the 8mm membrane so to reduce the amount of head height lost through waterproofing the basement.

8mm floor membrane is to be sealed to manhole covers with 200mm tape.

Drainage
The effectiveness of the system is dependent upon discharging free water before it can build up behind the system whereby pressure is placed upon the cavity drainage system.

It is therefore essential that an effective drainage system is installed and maintained.

Carry out a water flow test to establish falls and low spots. Take out any hollows with a latex screed and form chases as required.

Provide and fit submersible **single** pump to the rear reception room and a **double** to the under pavement vaults, complete with alarm system and wire into a fused spur box. Run waste using 32mm armoured flexible pipe and or standard solvent weld pipe work into suitable drain with a non-returnable valve incorporated.

The effectiveness of this system is totally reliant upon the pump discharge, you should consider the implications of pump/electrical supply failure.

We can offer a range of additional features including alarms & back-up systems for your peace of mind: -

- Annual Pump Service
- Back-up Dual Pump System
- Back-up Battery Power Pack

For further details on any of the above options please contact our Surveyor.

The client is to arrange for a competent electrician to connect the pump and provide within 1.0m of the sump chamber a neon un-switched fused spur ideally on its own circuit. This must not be on the basement ring main.

Vault 129 Drainage system

The new slab is to be constructed with a slight fall pushing water to the centre of the floor. The water is then picked up by a drain gulley that leads to a network of pre-laid pipes (by the main contractor) that can carry the water to the sump chamber. This will also eliminate the need for perimeter drainage and any reservations that the structural surveyor may have with the structural integrity of the new floor slab.

Please see the below example

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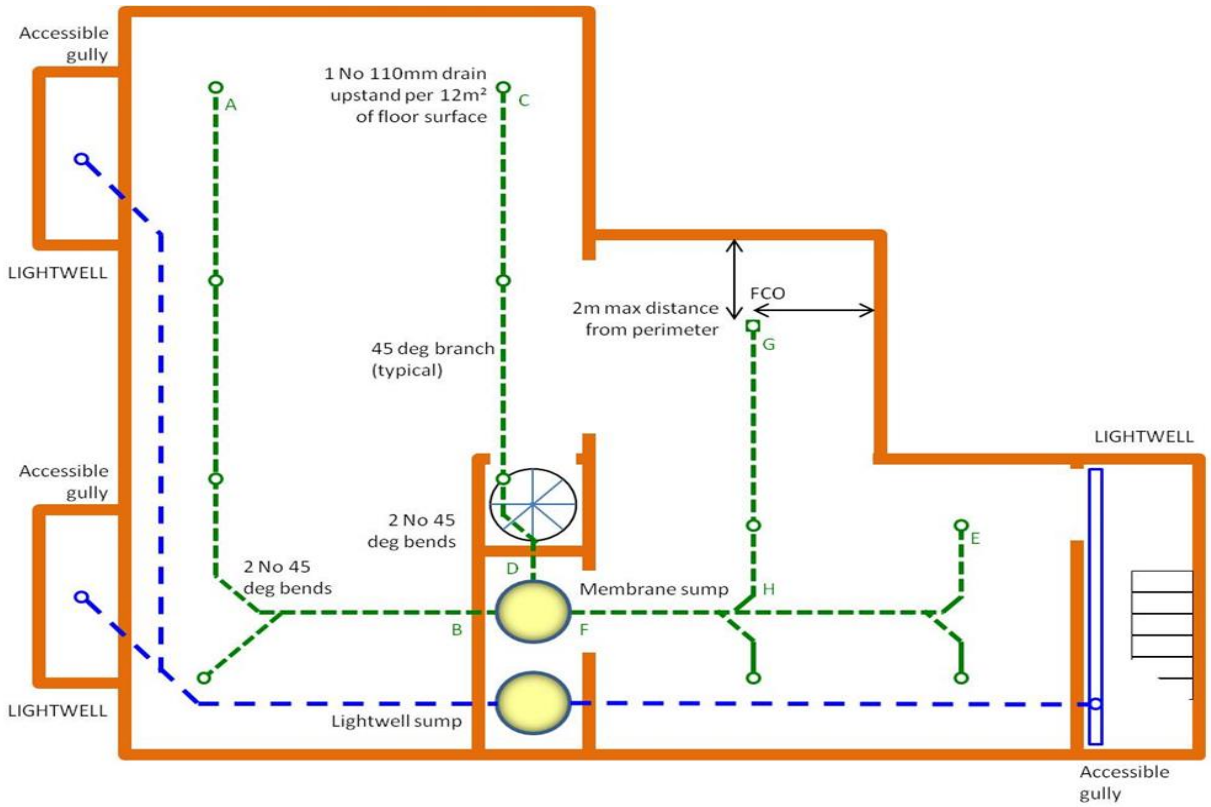

Finishing Specifications Vaults only
Plasterboards to **BS 1230** are to be secured to the pre-treated battens/studding using either plasterboard screws or galvanised nails.

Plasterboard joints are to be taped and scrimmed, ready for the finish coat to be applied.

Floors
The Main Contractor is to install the insulation and lay the screed.

Ventilation

Membrane systems help to reduce condensation, which can occur on wet systems. However, as with all basements the correct ventilation should also be installed. Our surveyor will be pleased to give you advice on ventilation.

Important Information – Client to Note

As you will appreciate, the very nature of our work will involve disturbance from noise and dust. This dust pervades the atmosphere and covers a very large area. Whilst care will be taken we cannot accept responsibility for furniture, fittings, floor coverings, etc left within the area affected by dust. The client should consider the welfare of any occupiers within a close proximity to the work areas.

All building services detailed in the report to be undertaken by others should be provided to us free of charge.

The installation of the system must be regarded as a wet trade. It should therefore be appreciated that whilst reasonable care will be taken, blemishes or splashes may occur as a result of the process.

No responsibility will be accepted by CPM Waterproofing Services for cleaning or any such blemishes.

All builders work mentioned in this report is to be carried out by the client's own builder, under separate contract.

Our report and quotation do not make any allowances for the application of planning or building regulations approval that may be necessary, as this is the responsibility of the client.

CPM Waterproofing Services are approved installers of Delta membrane systems. The membrane products used in the construction of the Cavity Drain System have a 30-year product warranty against degradation (specimen on request). Your attention is drawn to the terms of the warranty.

Guarantee

Upon completion of the contract our **10 Year Guarantee** will be issued, protecting you against the recurrence of water penetration through our waterproofing, offering you piece of mind for your property in the future. Whilst any general building and ancillary works undertaken by CPM Waterproofing Services are excluded from any treatment guarantees issued, you will of course be protected by your statutory rights under The Consumer Protection Act 1987. Providing the above guide lines are followed.

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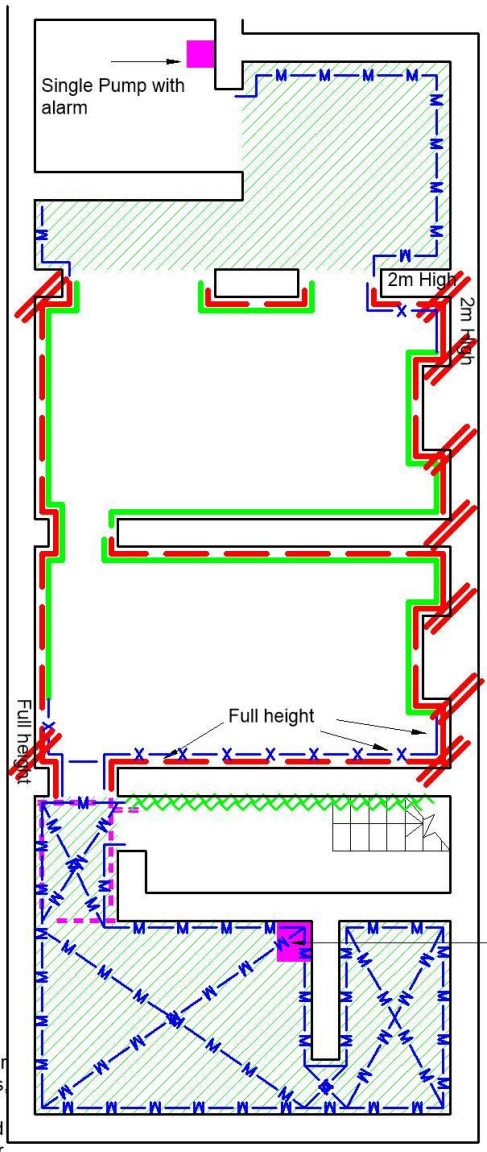

Unless otherwise stated in the report, where our work is to be carried out internally we require you to arrange for the removal of carpets and furnishings, together with all skirtings, fixed units and appliances, from walls designated for damp proof course insertion and/or replastering. This work MUST be done prior to our commencement.

NOT TO SCALE

NOTES

T timber floor

S solid floor

Damp proof plaster 1.5m high, unless otherwise stated
Wall & Ceiling Membrane
Floor membrane
Perimeter drainage
Cementitious plastering
DPC
vertical DPC
External rendering
high ground or floor level

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