



**KAVANAGH
MANSFIELD
& PARTNERS**

CONSULTING
STRUCTURAL
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ENGINEERS

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Ref. CL 2056/JM/kt

RE: St. Catherine School, Rush

Dear Adam,

Further to our meeting on site yesterday, I wish to confirm that I inspected with you the drawings of the proposed area for the sound sculpture piece.

This area is placed above the bottom of a stairwell which is a two storey height.

The sculpture will be placed in a zone above the bottom of a stairs which is approximately 1.67m wide x 2.57 long. The height to first floor is 3650 with a further height from first floor to underside of the upper ceiling of 3150 giving a total zone up to the ceiling from ground level of 6800.

Above that ceiling there is a 150 void and above that again there are 140 x 50 joists at 600 centres spanning across the width of the stairwell. These are supported by a very lightweight metal C section which is less than 1mm take and which would not regard as satisfactory for fixing.

One of the walls of the stairwell i.e. that beside the GP room is a blockwork wall as while the other height wall is a stud partition.

The sculpture itself is lightweight and a conservative estimate of the weight of that would be approximately 200kg although it should be less.

In my opinion, this can be supported on the joists above the ceiling but these would have to be properly fixed to the walls at both sides.

An investigation could take place into the supports for the joists and to augment them by means of angle fixings back to the masonry and stud walls in a satisfactory fashion with a trimmer above a number of them.



This would support a steel plate which would be hidden within the ceiling void and which would then support the sculpture below.

It would be important to agree with you the method of support for the sculpture you require and how this is to be suspended from high level. This could be done by means of a series of cables but the shape and strength of the bracket designed and whether it be series of concentric circles or a spoke arrangement would be up to you.

In relation to erection, this will need a scaffold tower to be erected within the stairwell to erect the supports and steelwork.

This would then be dropped in stages to allow the sculpture be fixed but arrangement would need to be made as to how this will be done to facilitate erection of the piece itself.

In addition to the above, I understand that you will need electric cabling. This could be brought through the ceiling spaces and dropped down to the stud partition wall and run at ground floor ceiling into the office area where a switching arrangement could be made.

If the control mechanism is needed at high level, this could be placed above the timber ceiling at the other end of the stairwell and fixed to the masonry wall.

In relation to the outdoor pole a shoe arrangement could be made into which the pole could be installed and tightened up.

I would be pleased to assist in this and give further details in relation to the support of the structure when the size and weight of the piece itself is more determined and the shape and nature of the fixing you require.

I trust that the above meets with your requirements.

Yours sincerely,

for

KAVANAGH MANSFIELD AND PARTNERS

Consulting Engineers