

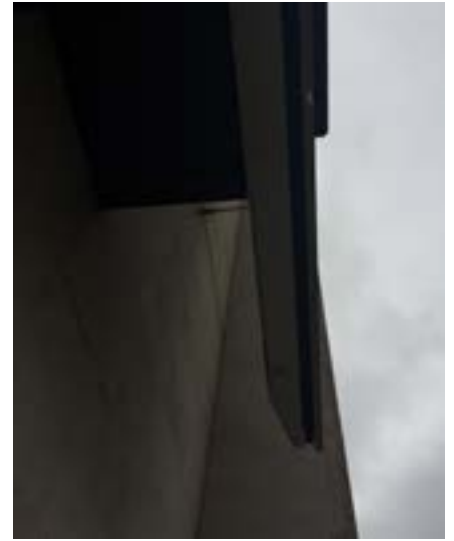
# Second Year Technical Studies Facade Analysis

## Broadcasting House: Portland Place Facade

MJP Architects/Sheppard Robson

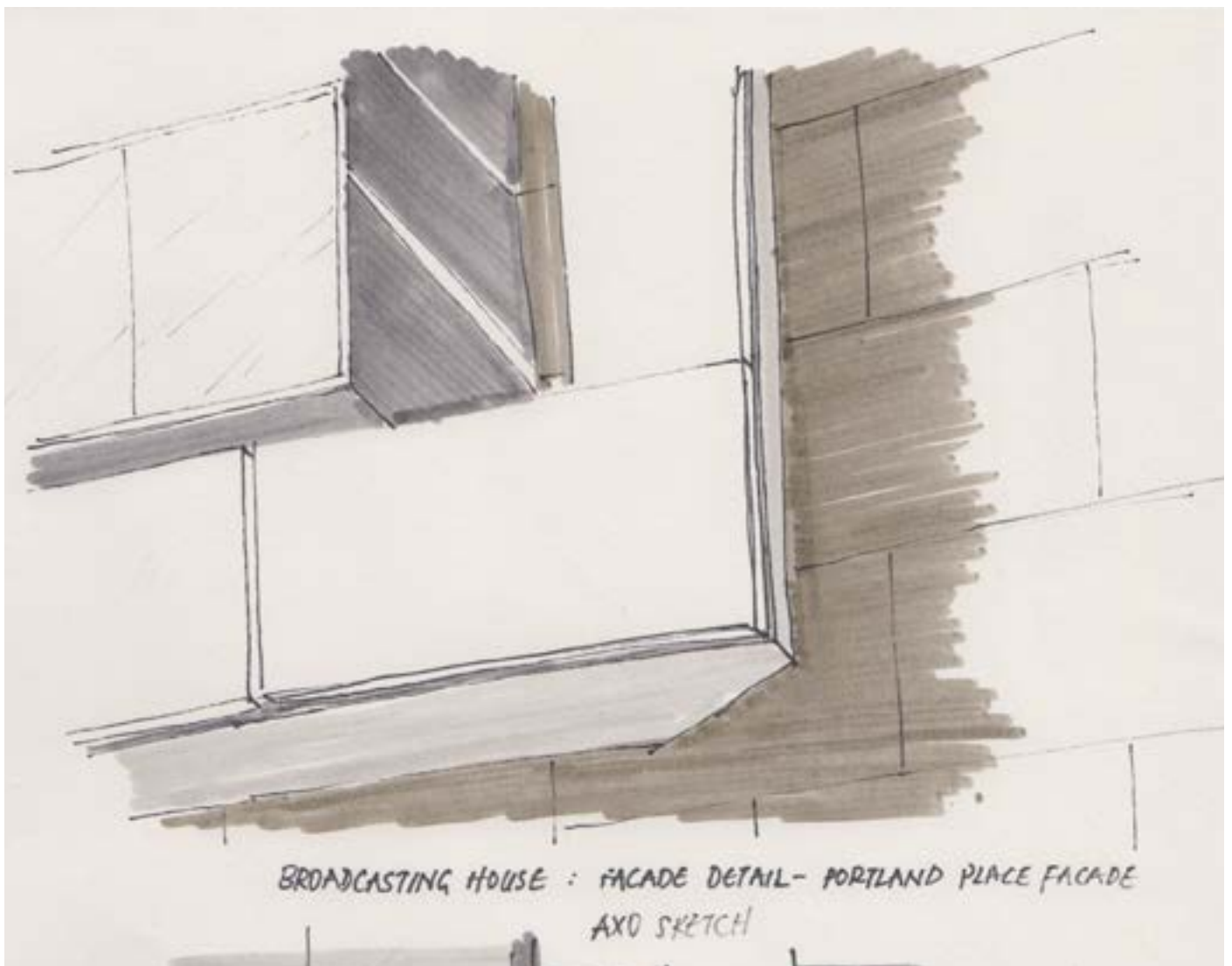
Toh Zi Ken

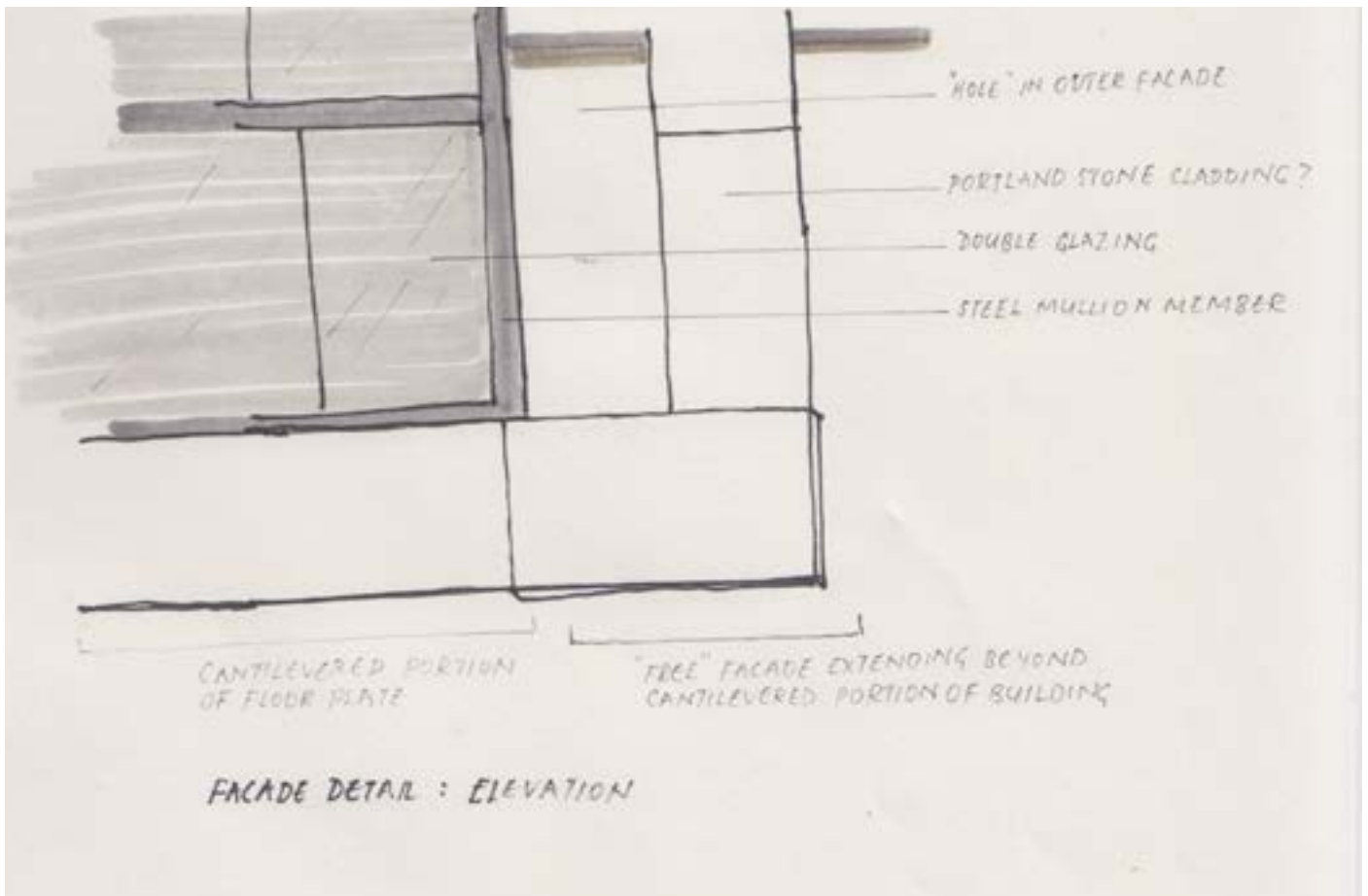




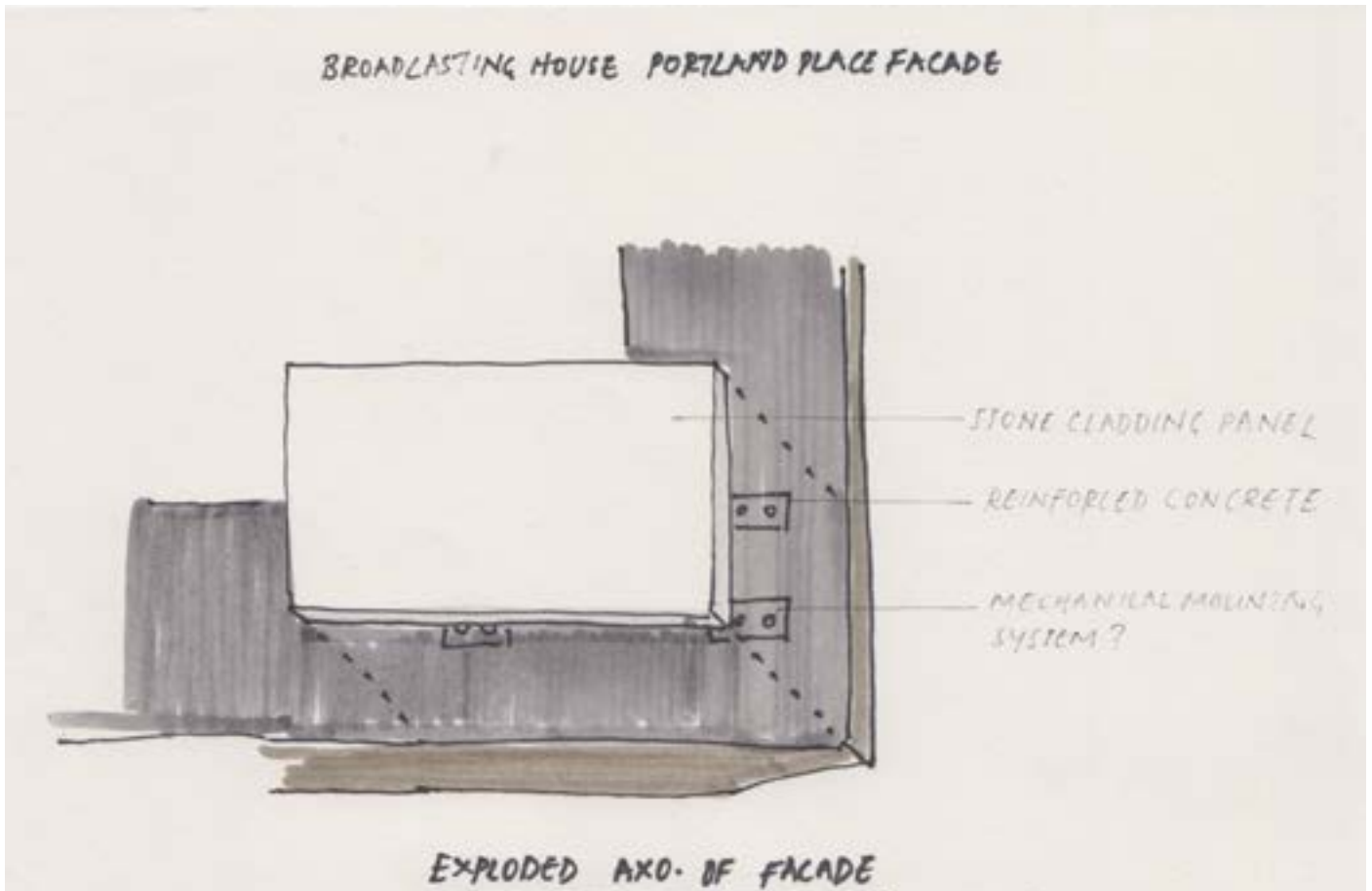
The facade of the building is quite interesting, as there is a double-layered facade that gives visual depth and interest. Part of the building is cantilevered out on to the street and the facade of that portion extends beyond where the floor plate ends, giving depth to the otherwise simple facade. The building is faced with a white stone, possibly portland stone or limestone, given the aesthetic of the surrounding buildings on Portland Place and Regent Street, as well as the original portion of Broadcasting House.

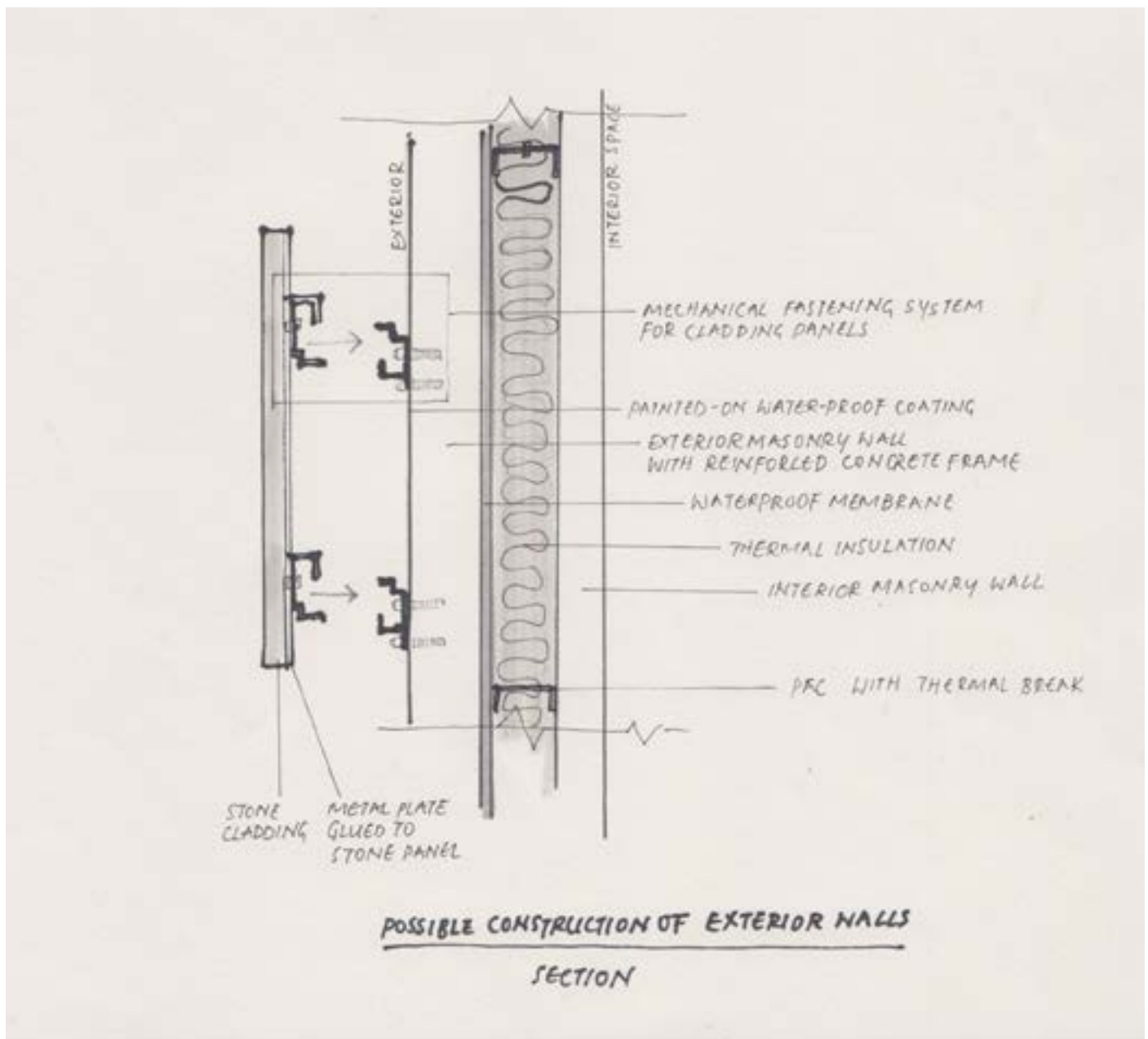
The stones have visible gaps between each other, as well as the structural portion of the building, so the exterior stone finish of this building is purely decorative.





The building is unlikely to be a stone building, and given the time of its construction, (post 2000) it is most likely to be either a reinforced concrete structure or a steel structural frame. Either way, the exterior walls would be masonry-filled in order for the cladding to be supported, since stones are quite heavy, and may warp timber or drywall construction. The panels look like they are fastened to what looks like a concrete structure.

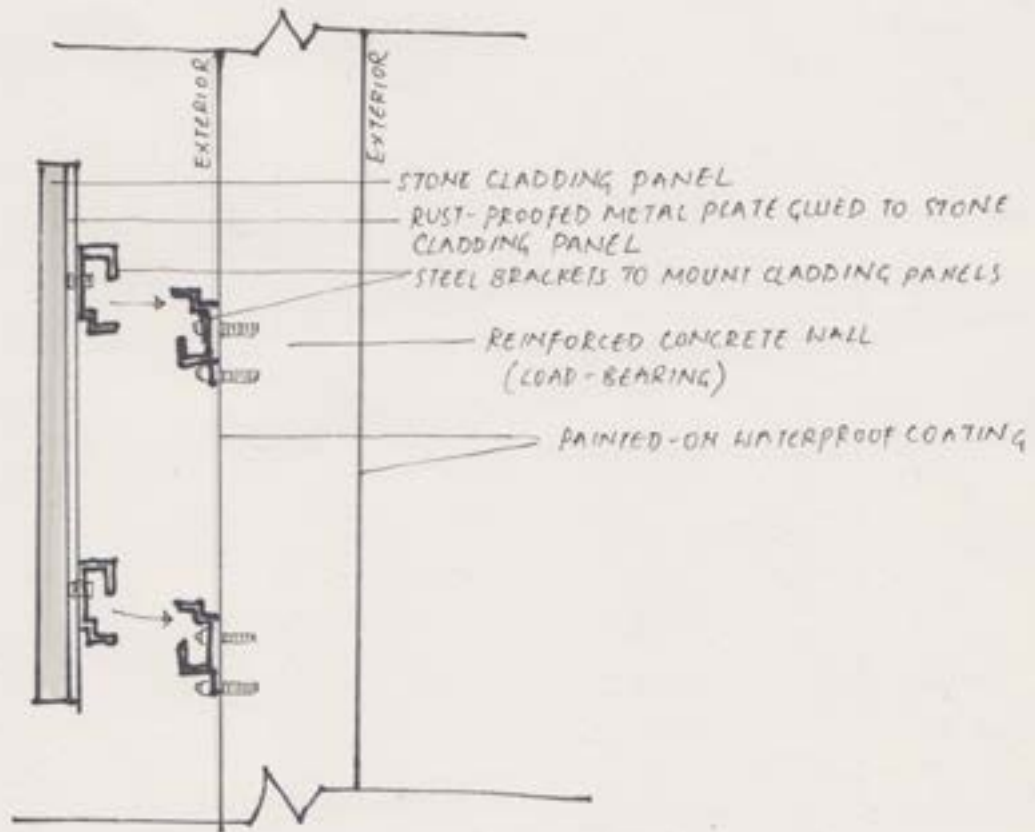




From the photographs, the stone looks quite thin: it is not more than a few centimetres thick. This makes it quite fragile, so it is possible that the stone veneer has been mounted on a steel (or other suitable metal) plate, before being hung on the building, to increase its strength, and reduce the likely hood of cracks that might have occurred if bolts were to be driven directly into the stone. The facade is also made of large panels of smaller stones, which were probably manufactured off site, reducing the amount of labour required on site, and can be quickly and easily put in place.

Folded steel plates are then fastened to the metal plate, with a corresponding plate fixed on to the masonry exterior wall of the building. Since they are on the exterior, and are not protected by any waterproof layer, the steel components are probably suitably rust-proofed.

The next layer is the masonry construction. There is probably a steel or concrete structural frame that supports the weight of the facade, (and possibly also the building's load, depending on the design of the interior) and the spaces in between are either glazed where windows are needed, or filled in with masonry work. Since a single-layer masonry wall does not provide adequate thermal insulation, This building might be of double masonry wall construction, with the gap in between filled with thermal insulation. There does not appear to be a waterproofing membrane visible on the exterior of the building, so the concrete and rendered masonry is probably painted with a layer waterproofing to prevent rainwater seepage into the pores of the cement, with a waterproof membrane on the interior of the wall. These layers are quite thin, judging from the thickness of the window frames. The total thickness of the wall is not more than 50cm, including the stone cladding.



DETAIL OF FREE-STANDING PORTION OF FACADE  
SECTION

This is a drawing of the free-standing portion of the facade, which does not have an interior space behind it, but is entirely on the exterior of the building. The construction is different here, as there is no need for thermal insulation. The structure appears to be thicker, and tapers down at the end. The structure uses the same method of attaching the stone cladding panels, but the structure only consists of a single slab of concrete. There appears to be no exterior waterproofing membrane, so there is probably a coating of some sort which is painted on to prevent water entering holes and small cracks in the concrete which will eventually result in cracks.