

CASE STUDY – ROOF-TOP STRUCTURES

Project Type: Rooftop Structures/Antenna mounts

Client: FCCI

End Client: du.

Location: Shangri-La Hotel, Dubai

Brief:

With the creation of a new up-link station **du** telecommunications planned to utilise the roof-top of the Shangri-La Hotel to locate their antennas. Jaggard Wireless Communications were approached to offer a solution for an unobtrusive mounting structure capable of accommodating multiple antenna and dish loads.

One structure was to be placed on each of the roof-tops of the Shangri-La Hotel in Dubai

Scope of Works (SOW):

- Design suitable steel framed structures to accommodate various microwave dishes and antennas up to 2.4m in diameter. Design should include RF transparent GRP screening.
- Fabricate the structures according to the approved designs and so as to surpass fabrication standards.
- Install the structures, to schedule, on both roof-tops - 47 storeys above street level.

Constraints:

The Shangri-La is 5 star deluxe hotel and as such values its clients comfort and safety above all else. As such, Jaggard needed to work 'unseen' whilst maintaining the highest safety standards at all times. Limited access to the rooftop locations was provided by means of a service lift and stairway *only*. All steel work had to be sized and weighted so as not to hinder access.



Rooftop prior to installation



Steelwork assembly



Mounted dish antenna and cladding installation

Existing Police communication equipment located on the roof-top had to be considered in all phases of the design and installation programme.

Due to the confines of a small working area, containing existing structures, Jaggard had to think smart and work hard to achieve a successful completion on schedule.

Method:

Our in house design team and draughtsmen worked on several solutions to the client's problem. Working closely with the Shangri-la Hotel, Dubai Police and **du**, Jaggard were able to submit a design that was favoured by all parties. This was passed over for manufacture which was controlled and scrutinised at each stage by Jaggard engineers- quality control being of utmost importance.



Multiple dishes and antennas installed

Result:

Jaggard installed a galvanised steel structure capable of supporting the specified antenna loads and offering room for expansion and additional loading. Cable management was considered with the inclusion of integral tray work. The structure incorporated RF transparent GRP cladding/screening to maintain the aesthetics of the building without depleting signal quality.



Above: RF Transparent Cladding detail
Left: Completed Installation



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