

Project name **TV City**

Location **Tseung Kwan O, Hong Kong**

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TV City, Tseung Kwan O

Building a city

by Tim Youngs

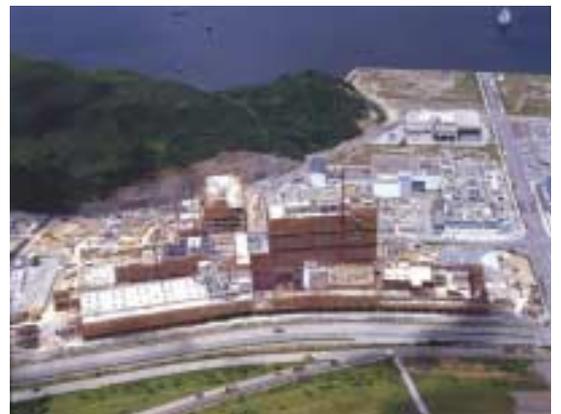
Since its completion last year, TV City in Tseung Kwan O has been serving as the production centre for the SAR's largest local broadcaster, Television Broadcasts Ltd (TVB). Like a genuine mini-city, the development operates around the clock, complete with a 24-hour canteen, a bank and quarters for visiting cast members in addition to the work areas.

The project was delivered to TVB by main contractor Dragages et Travaux Publics (HK) Ltd in three phases, allowing ongoing TV production to be transferred to the new facilities without any hiccups in the programme. Achieving this required complex coordination of the schedule coupled with the attention to detail inherent in the design and construction of advanced broadcast facilities.



The TV City project was completed through a series of three packages culminating in mid-2002. Following design by Gensler International and Leigh & Orange, Dragages took hold of the site after foundation works completed to not only build the project but coordinate the complex phased development too. The 75,900 sq m TOP1 phase for TV City

comprised a podium with dubbing rooms and an office tower structure in the Technical Block and Administration Tower. It also included a portion of the Workshop Block and Wardrobe Extension and chillers above the wardrobe; associated external works and road works; and a Drama Studios block containing five studios plus external works.





TOP2 covered a construction area of 33,900 sq m and included the news and carpark block with an outdoor shooting site and associated external works, plus a Canteen Annex, plant rooms and external works.

Finally, OP saw the completion of 43,600 sq m of construction area accommodating the Live Studios Block and its external works; the remainder of the Workshop; Administration Tower fitting out works; and remaining road works and external works.

TVB chose to extend the outdoor shooting area at TV City itself, recreating old Chinese buildings with specialised contractors carrying out the building works.

The phases were constructed and handed over to meet an extremely tight schedule. Works for the first package commenced between September 2000 and January 2001 before completing in January 2002; the second package of works began between December 2000 and April 2001 before delivery in March 2002; and the final package commenced between September 2000 and April 2001 ahead of completion in June 2002. Among these components, the Drama Studios in TOP1 took 12 months to build, the Canteen Block took 10 months to build and the Workshop took 13 months to build.

According to Dragages et Travaux Publics (HK) project manager Patrice Bard, the main contractor implemented a coordinating system





for TV City. "We brought in a coordination system through Dragages and [M&E contractor and subsidiary] Byrne Engineering in terms of coordinating the services."

For each of the three OPs, inspections had to be carried out. While TOP1 and TOP2 inspections were being carried out, the contractor was still working at full speed on other areas in the nine-hectare site.

Fast-track construction

At the peak of construction in November and December 2001, about 2,000 workers from all trades were on site carrying out everything from concreting works to handover preparations.

Dragages and Byrne alone had 170 technical staff in their office, encompassing supervisors, engineers, coordinators and managers. Streamlining measures in the office to improve efficiency included employing a four-person team for document control by registering items through software. As a result, staff could log onto computers to immediately see what was approved or not, as well as check statuses on electronic files.

In terms of construction, traditional formwork systems of timber form and scaffolding were used to meet the demanding schedule, as there was little time to consider studies into alternative methods. The last phase of the development was handled with steel structures and concreting as a faster building system.

Altogether 25 studios of different sizes were placed in the development for drama, live and newsroom use. With the largest of these about 50 m high and spanning considerable distances, tower cranes were cast aside early in the project phases to make way for more mobile cranes and cherry pickers. At the project peak, 350 mobile scaffolds and 30 scissor lifts and cherry pickers were in use at the same time. The cost-effective mobile scaffolds system was specifically developed by Byrne so that E&M fixing works could be handled efficiently and safely.

Attention to detail

Dragages' coordinating role came into full force in the planning and provision of the development's myriad technical details. "You cannot imagine the number of services that are within the ceiling void," explained Mr Bard, citing an example. "It's quite impressive in some locations, meaning that when we were coordinating all the layers of the services we had to consider the noise problem every time. Wherever we were putting a drainage pipe, we had to consider it. We couldn't put drainage wherever you want — it had to perhaps go around one studio just to avoid any form of noise. The same system applied with air ducts — we had to think about any supply of air."

Dragages' input into the rigid acoustic requirements went beyond careful routing of building services and balancing air-conditioning noise to also encompass selection of materials to control reverberations. No expense or effort was spared for acoustic treatments. A drywall system was specified throughout, and all wall elements



including doors and fenestration were rigorously tested. All walls are covered by acoustic panels and steel plates are installed behind some panels to take into account the fact that reverberations work at different frequencies in different areas. 50 mm thick ceiling tiles from France were placed in all studios, dubbing rooms and control rooms, featuring Rockwool with black tissue inserted to cancel reverberation.

In the studios, super-flat flooring was needed because cameras are moved on wheels rather than on tracks. The necessary flatness was achieved with a screed to form a slab, covered with cement-based self-levelling and finally an epoxy layer. To ensure no static electricity in the floor whatsoever, thin earthing copper tape was installed in the epoxy layer and connected to electrical boxes that collect static.

Challenges in phased handover of the project while construction was ongoing also appeared in the completion of the TOP1 control rooms.

These facilities had to be handed over completely dust-free — from under the raised floor to the 2 m-deep ceiling void — before optical fibre contractors, broadcast machinery suppliers and other tradespersons could carry out their work. 

Television Broadcasts Ltd
client

Gensler International
Leigh & Orange Architects
architects

Dragages et Travaux Publics (HK) Ltd
main contractor

Parsons Brinkerhoff Asia
building services design

Meinhardt
structural design

Levett & Bailey
quantity surveyor

