BANAGHER CONCRETE

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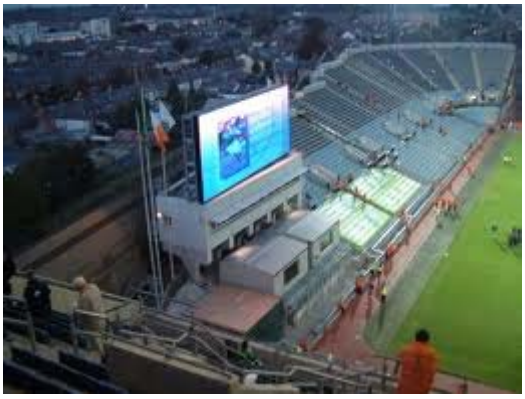
STADIA (CROKE PARK)

Croke Park Review:

Banagher Concrete were commissioned to provide a precast alternative to the original cast-insitu design. A precast alternative was sought as it was deemed the only construction method that could achieve the extremely challenging project completion programme put forward by the Client, the Gaelic Athletic Association. Notwithstanding the clear advantages of an efficient precast solution, it was always clear that the programme would remain extremely challenging. The structure was of a complex and irregular geometric nature, requiring some very large, heavy and geometrically complex precast units in order to yield the structural and architectural characteristics of the outline design put forward by the design team of consultants and architects.

Banagher Concrete commissioned Exstrado a South African consultancy to prepare the detail design calculations and construction drawings for all precast elements to the structure. This included everything above foundation level. Exstrado then became an extension of Banagher Concrete for the duration of the project, working through the Christmas period to prepare production drawings and progress the design.



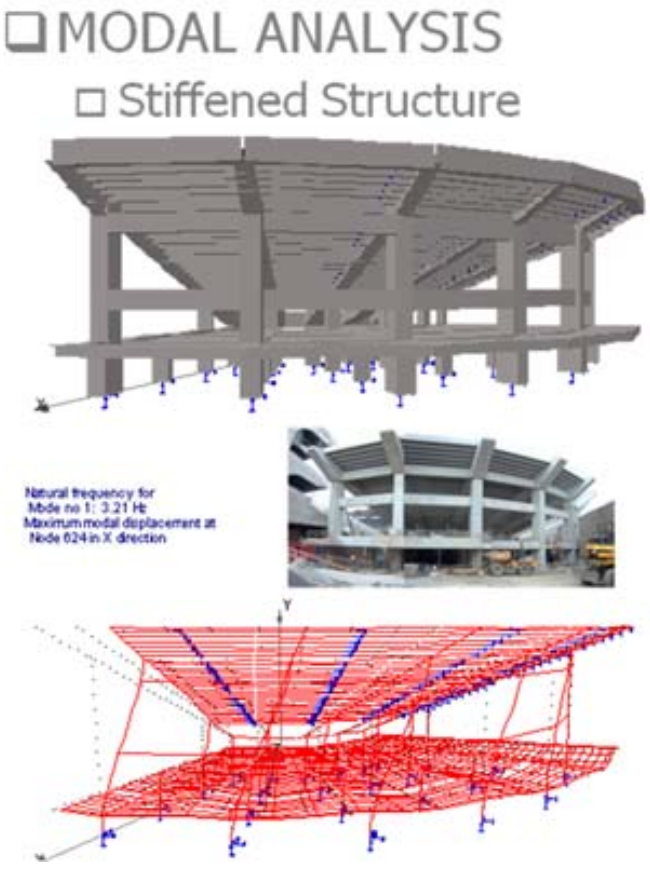
John Sisk & Sons duly commissioned Banagher Concrete for the design and supply and installation of the entire redevelopment as a redesigned precast structure. These precast concrete elements included:

a. Columns
b. Concourse Beams
c. Hollowcore flooring
d. Aisle Beams
e. Vomitories
f. Terrace Units
g. Transverse Beams
h. Front Terraces including aisle beams, terrace units and special step units
i. Control suite
j. Courtyard walls, stair walls and stair flights
k. Lift shaft

Banagher Concrete's manufacturing process was characterised by:

- Sophisticated mould work fabricated by state of the art methods by highly qualified tradesmen
- State of the art self compacting concrete mixes with high early strength development
- Sophisticated and fully automated reinforcement cutting and bending methods (CAD/CAM) resulting in accurate and optimised bending of reinforcement i.a.w. the design details and schedules.
- Detailed in-house checking of design deliverables to ensure consistency between the design deliverables and the final product.

The decision to use self compacting Concrete on all elements in Croke Park was based on the requirement of a uniform blemish free finish to all exposed concrete surfaces, this coupled with the complex geometrical shapes and density of reinforcement gave it enormous advantages over conventional concrete.



Banagher Concrete and John Sisk & Son Ltd agreed an erection plan which took on board the wedge shape of the site along with concerns from the GAA and Irish Rail. Sandwiched between a busy railway line and the hallowed turf of Croke Park meant coordination and site management were essential on this congested and ever decreasing site.

Erection commenced adjacent to the cusack stand. Precast concrete element installation was on a bay by bay construction sequence commencing with Service Level Columns, Concourse Beams and Flooring, Concourse Columns, Raker Beams, Vomitory Walls and Terracing.
The fact that these elements, some of which were up to 90 tons in weight, fitted first time every time is testament to the accuracy of workmanship and design in the partnership between Exsrado and Banagher Concrete.

The Project was delivered on time and to the satisfaction of the Main Contractor John Sisk & Son Ltd., Architect Gilroy McMahon, Engineer Horgan Lynch & Partners and the Client the GAA.