

# Integrated Project Delivery (IPD) for Maximizing Design and Construction Considerations Regarding Sustainability

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*Abstract*

The lecture will discuss the latest developments in California regarding Integrated Project Delivery (IPD). This integrating partnership of construction professional includes engineers, architects, construction managers and many other key stakeholders to the project. Team decision making begins at early stages of major construction project development. BIM forms an essential coordination tools in this decision environment. IPD linked to the “Big Room” concept will be discussed. The lecture will focus on how using IPD will allow fuller consideration of the criteria and constraints that are presented to the collaborative team to help create a safer, greener and more sustainable environment. The IPD environment proposed is one that fully utilizes the strengths of intelligent collaborative computer agents that interact with the multi-discipline pre-construction team to interrogate and refine the design solution before construction commences. A collaborative decision making environment where the knowledge and intelligence of all domain-contributing agents can be employed regarding environmental and other key performance criteria. All contributors are collaboratively drawn into the design and pre-construction process. Time is saved because a concurrent problem solving approach is adopted rather than a sequential problem solving approach that has typified pre-construction activities in the past. Finally, the environment is extendable to continually monitor and assist environmental decisions throughout the life cycle of construction projects.

**Keywords** : Sustainable, Collaborative Engineering; Integrated Project Delivery (IPD); Virtual Design and Construction; Knowledge Based Engineering; Intelligent Agents; BIM; Big Room.