

GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
(RAILWAY BOARD)

No. 2022/SD-II/22/01/57

New Delhi, Date. 24.03.2023

All General Managers  
Zonal Railways

**Sub: Implementation of BIM in Station Development Projects over Indian Railways**

In endeavor to fast-track execution of station development projects, all project units are advised to ensure implementation of BIM (Building Information Modeling) as per the extant provisions of EPC Contract. BIM Models should support activities during all the stages of project including planning, detailed design, scheduling and construction.

The concerned field units may emphasize that spatially coordinated "***Good for Construction drawings (GFC)***" of all disciplines should be generated from the BIM model to the extent possible within the terms of the EPC contract.

For general guidance, a checklist has been prepared for field units and is being circulated herewith as Annexure -'I'. This may be suitably modified as per terms and conditions of the contract.

*Q 294.3.23*  
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**BIM Implementation Checklist for Station Development Projects**

<b>Name of Station</b>	
<b>Name of Contractor</b>	
<b>Authority Engineer</b>	
<b>Design Engineer</b>	
<b>Proof Consultant</b>	

<b>Stage / Phase</b>	<b>S N</b>	<b>Item</b>	<b>Status / Remarks</b>	<b>TDC</b>
<b>Development Phase</b>	1.	Appointment of Project BIM Manager ( <i>Architect / BIM Consultant</i> ) by EPC Contractor ( <i>As per Schedule D - Part A - Part 3 Clause 4.1</i> )		
	2.	Kick off meeting/Workshop of all Stakeholders with Architectural / Technical Consultant & EPC Contractor		
	3.	Submission and Approval of BIM Execution Plan		
	a.	Detailed schedule for Model development		
	b.	Designated Delivery Milestones		
	c.	Model Progression Matrix (MPM)-Responsibility Protocols		
	d.	Modelling Software to be used ( <i>Versions, file exchange protocols, Software requirements, any other tools used etc</i> )		
	e.	LOD Standards Adopted		
	f.	Support of Cloud-based Common Data Environment (CDE) supporting Building Information Modelling		
	g.	Compliance of the standards adopted as per the EPC contract for developing BIM Model <i>(Fill the applicable details)</i>		
	i.	ISO 19650-2 [PAS (Publicly Available Specifications) 1192 – 2] - ( <i>Standards</i> )		
	ii.	PAS 1192 – 3 ( <i>Standards</i> )		
	iii.	Construction Industry Council (CIC) BIM Protocol ( <i>Standard Contract Agreement</i> )		

Stage / Phase	S N	Item	Status / Remarks	TDC
		iv. BIM Forum		
		v. Any other standards defined in the EPC contract		
Data Collection and Integration	4.	Preparation, Validation & Submission of pre-requisite drawings by EPC Contractor to Project BIM Manager. The drawings may comprise of:		
	a.	General Arrangement Drawings		
	b.	Floor Plans of Air Concourse, Station Building etc		
	c.	Architectural Concept Drawings		
	d.	Structural Drawings, if any		
	e.	Landscaping Plan		
	f.	Mechanical, Electrical, Plumbing and Fire Safety (MEPF) Drawings		
	g.	HVAC Drawings		
	h.	Any other Drawings/Plans		
Model Development and Management	5.	Preparation of 3D Models on BIM Software. Develop Visualizations as mentioned below:		
	a.	Creation of Clash Free Model-Detection and Resolution of Utility/Structural Clashes		
	b.	Integration of Material Specifications		
	c.	Generation of spatially coordinated GFC Drawings as per Milestones		
	6.	Integration of BIM with Project Management/Scheduling Software		
	7.	Stages of BIM Model Development		
	a.	<i>4 D Model (Simulate the timeline across the duration of the project)</i>		
	b.	<i>5 D Model (Dynamic cost scheduling)</i>		
	c.	<i>6 D Model (Record Modelling (As built) &amp; Facilities Management and Asset Management)</i>		