BC HOUSING

DASH Projects BIM Requirements

[Project Name]

FOR INFORMATION

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Description	Date	Author	Version
Website Publication	March 2026	[Author name]	5

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2. REFERENCE DOCUMENTS AND STANDARDS

2.1 PROJECT-SPECIFIC REFERENCES

2.1.1 BIM REQUIREMENTS AND OTHER BIM REFERENCES

The purpose of the BIM Requirements document is to provide clear and precise requirements for [Developer Name] BIM projects.

Capitalized terms used but not defined herein shall have the respective meanings given to RAIC Doc 6 2022 (including BC Housing Supplemental General Conditions (SGCs) to RAIC Doc 6 2022) and CCDC-5B.

3. OBJECTIVES OF THIS DOCUMENT

This document constitutes the BIM Requirements for the [Project Name] Project and is an integral part of the Project's requirements. It defines:

- The contractual BIM Requirements of [Developer Name] for this Project.
- The BIM uses to be implemented on the Project.
- The scope and information requirements to include in the Models required for the Project.
- BIM-related roles and responsibilities for stakeholders involved in the Project.

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4. TERMINOLOGY

The following terminology is applicable to the Project:

Design BIM Models:

BIM models under the responsibility of Consultants. They are continuously updated (addenda, modifications, etc.) and are useful for the development, representation, and documentation of design throughout the entire Project duration.

Construction BIM Models:

BIM models under the responsibility of the Construction Manager, Subcontractors and Suppliers. Used for the development, representation, and documentation of detailed system coordination, prior to fabrication and work execution. Used to produce *Shop Drawings*.

These models are initiated based on and/or considering the Design BIM Models for construction and are updated as work progresses.

As-Built BIM Models:

Construction BIM Models issued at substantial completion of work by the Construction Manager as the final revision. They represent the as-built reality, are prepared using as-built drawings (marked up prints) and include all modifications made by Subcontractors and Suppliers during work execution as well as modifications resulting from change orders and other modifications.

Record BIM Models:

Design BIM Models updated by the Consultants at substantial completion and final completion to reflect the agreed-upon design-intent conditions, incorporating all addenda, change orders, and modifications issued during construction.

Reference BIM Models:

The current authoritative BIM Models for the active project phase. During the Design phase, the Reference BIM Models are the Design BIM Models. During the Construction phase, the Reference BIM Models are the Construction BIM Models.

Note: The generic term "Model" used in the BIM Requirements may refer to one or more of the definitions expressed above, depending on the context.

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5. BIM OBJECTIVES FOR THE PROJECT

[Developer Name] requires BIM deployment on its projects to enable effective coordination, transparency, improved logistics and fast delivery, clash detection, easy access to offsite production processes and documentation to facilitate operations and management. Leveraging these advantages will enable [Developer Name] to expedite the provision of affordable, high-quality housing- and to:

- Achieve a high-level of design resolution and coordination to minimize uncertainty in construction. This objective requires well-coordinated three-dimensional models and corresponding two-dimensional Construction Documents.
- Achieve an efficient and straightforward BIM workflow that doesn't require intensive management on the part of [Developer Name], the Design Team or the Construction Team.
- Support the Optimized Design and Construction Process in the context of the DASH demonstration projects.

6. TEAM ORGANIZATION

6.1 ROLES AND RESPONSIBILITIES

6.1.1 SCOPE OF RESPONSIBILITY

The Prime Consultant shall appoint a Lead Design BIM Manager who will be the interface of [Developer Name] for all matters relating to BIM. Similarly, the Construction Manager shall appoint a Lead Construction BIM Manager who will be the interface of [Developer Name] for all matters relating to BIM during the construction phase. General responsibilities are described in the technical specifications. All activities related to the responsibilities described below must be carried out in compliance with the BIM and information requirements.

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6.1.2 LEAD DESIGN BIM MANAGER – PRIME CONSULTANT

Table 1 - Lead Design BIM Manager Responsibilities

CATEGORY	RESPONSIBILITIES
Management	Coach Discipline BIM Managers in BIM planning and implementation for the current phase
	Assist Discipline BIM Managers in defining their model quality assurance plan throughout the current phase.
	Assist Discipline BIM Managers in defining their procedure for checking conformity between the reality built on site and the Construction BIM Models as work progresses.
	Structure, coordinate and enforce BIM processes and usages required for the design phase.
Scheduling	Coordinate the delivery of BIM models and deliverables for each Consultant
	Establish, in collaboration with project managers and Discipline BIM Managers, the schedule for modeling, coordination and design reviews
BIM Execution Plan	Create and manage the Design BIM Execution Plan (BEP) in collaboration with the Discipline BIM Managers of each Consultant
BIM meetings	Pilot the visualization of the Models at each meeting with [Developer Name]
	Organize and lead BIM management meetings useful for coordinating the process within the design team and take minutes to ensure follow-up
Modeling	Create and update the Master File for the Project
	Implement georeferencing on the Project, determining the best approach according to the type of project ensuring that all disciplines always share the same coordinates
	Coordinate the placement of premises (including rooms and spaces) between Discipline BIM Managers
	Define an intervention sequence with the Discipline BIM Managers for space coding for MEP sub-Consultants
Coordination	Produce coordination reports at the close of an interdisciplinary 3D coordination cycle by: • Visual inspections. • Automated clash detection.
Quality	Create and manage the quality assurance plan and integrate it into the BIM Execution Plan (BEP)
	Ensure that BIM and information requirements are met by Consultants
	Ensure that [Developer Name] standards are followed on the Project
	Carry out the required quality controls before handing over BIM deliverables
Common Data Environment (CDE)	Set up a collaborative platform for the Project, to be approved by [Developer Name]
	For each tool implemented on the Project, ensure the maintenance of a documentation structure in line with the standards of the Project and communicate this through the BIM Execution Plan (BEP).

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	Ensure the relevant participation and use of the CDE by the Consultants. This includes: • Organize training sessions as needed, depending on the tools in place • Continuous monitoring and updating of platform information • Monitoring and updating the list of users of these platforms

6.1.3 DISCIPLINE BIM MANAGERS – CONSULTANTS

Table 2 - Responsibilities of the Discipline BIM Manager

CATEGORY	RESPONSIBILITIES
Management	Manage the BIM team of a specific Consultant for the Project
BIM Execution Plan	Write and maintain the part of the BIM Execution Plan (BEP) related to the relevant discipline
Collaboration	Ensure models sharing at the defined frequency
	Act as the interface for the relevant discipline with Discipline BIM Managers and modelers from other Consultants
Modeling	Control the creation of new models for the discipline
	Identify the need for shared interdisciplinary parameters
	Manage the creation of BIM content related to its responsibilities
	Ensure that all of [Developer Name] requirements defined in the Appendix - Information requirements are met
Documentation / 2D drawings	Produce all relevant 2D deliverables from Design BIM Models
Coordination	Ensure 3D intradisciplinary coordination for their discipline before sharing information with other disciplines and specialties.
	Establish, in conjunction with the Lead Design BIM Manager, the schedule for coordination reviews
Quality	Ensure intradisciplinary quality control before submission to the Project team
	Ensure that the team's models comply with modeling requirements, and that the required information is modeled at the right time.
	Validate with a conformity check that their concept is respected in the Construction BIM Models. The required conformity check includes a visual inspection of the superimposition of the Design BIM Models and the Construction BIM Models.
Common Data Environment (CDE)	Ensure that models are classified as required on the CDE
	Ensure the active participation of their team on the CDE used on the Project

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6.1.4 LEAD CONSTRUCTION BIM MANAGER – CONSTRUCTION MANAGER

Table 3 - Lead Construction BIM Manager Responsibilities

CATEGORY	RESPONSIBILITIES
Management	Advise on and contribute to the Design BIM Execution Plan (BEP) regarding construction and fabrication requirements
	Coach Subcontractor and Supplier BIM Managers in BIM planning and implementation for the current phase
	Assist Subcontractor and Supplier BIM Managers in defining their model quality assurance plan throughout the current phase
	Assist Subcontractor and Supplier BIM Managers in defining their procedure for checking conformity between the reality built on site and the Construction BIM Models as work progresses
	Structure, coordinate and enforce BIM processes and usages required for the construction phase
Scheduling	Coordinate the delivery of BIM models and deliverables for each Subcontractor and Supplier
	In collaboration with project managers and Subcontractor/Supplier BIM Managers, establish the schedule for clash-detection reviews as well as the modeling and quality-control sequences prior to deliverable submissions
BIM Execution Plan	Create and manage the Construction BIM Execution Plan (BEP), based on the Design BEP and in collaboration with the Subcontractor and Supplier BIM Managers
BIM meetings	Pilot the visualization of the Models at each meeting with [Developer Name]
	Organize and lead BIM management meetings useful for coordinating the process within the construction team and take minutes to ensure follow-up
	Lead, facilitate, and document constructability review workshops, relying on the design-for-Construction BIM Models issued by the design team
Modeling	Distribute the Master File to all Subcontractors and Suppliers
	Implement georeferencing on the Project for the construction team following in accordance with the work of the design team, ensuring that all disciplines and specialties always share the same coordinates
	Coordinate the placement of premises (including rooms and spaces) between Subcontractor and Supplier BIM Managers
Coordination	Guide and support the Subcontractor and Supplier BIM Managers in carrying out interdisciplinary 3D coordination cycles
	Produce coordination reports at the close of an interdisciplinary 3D coordination cycle by: • Visual inspections. • Automated clash detection.
Quality	Create and manage the quality assurance plan and integrate it into the Construction BIM Execution Plan (BEP)

	Ensure that BIM and information requirements are met by the Subcontractor and Supplier BIM Managers and their teams
	Assist [Developer Name] representatives and professional teams in defining procedures for monitoring as-built conditions throughout construction.
	Review and verify the quality of BIM deliverables submitted by the Subcontractor and Supplier BIM Managers
Common Data Environment (CDE)	Work with Discipline BIM Managers to establish shared collaboration principles (BEP, platforms, model-exchange protocols, etc.) between design and construction teams
	Set up a collaborative platform for the Project, to be approved by [Developer Name]
	For each tool implemented on the Project, ensure the maintenance of a documentation structure in line with the standards of the Project and communicate this through the BIM Execution Plan (BEP).
	Ensure the relevant participation and use of the CDE by the trade's teams. This includes: • Organize training sessions as needed, depending on the tools in place • Continuous monitoring and updating of platform information • Monitoring and updating the list of users of these platforms

6.1.5 SUBCONTRACTOR AND SUPPLIER BIM MANAGERS

Table 4 - Responsibilities of the Subcontractor and Supplier BIM Manager

CATEGORY	RESPONSIBILITIES
Management	Manage the BIM team assigned to the Project
BIM Execution Plan	Write and maintain the part of the Construction BIM Execution Plan (BEP) related to the relevant Subcontractor or Supplier
Collaboration	Ensure the sharing of their team's models and the retrieval of models from other disciplines and specialties.
	Act as interface for the BIM Managers and BIM modelers from other disciplines and specialties.
Modeling	Control the creation of new models for their Subcontractor or Supplier
	Identify the need for shared interdisciplinary parameters
	Manage the creation of BIM content related to its responsibilities
	Ensure that all of [Developer Name] requirements defined in the Appendix - Information requirements are met
Documentation / 2D drawings	Produce all relevant 2D deliverables from Construction BIM Models
Coordination	Ensure intra-disciplinary and inter-disciplinary 3D coordination for their Subcontractor and Supplier with the Lead Construction BIM Manager before sharing information with other teams
	Monitor and support the resolution of detected clashes for their Subcontractor and Supplier jointly with the project manager
	When anomalies or significant discrepancies are identified, perform reviews of in-progress Construction BIM Models through: • Overlay with design-for-construction models • Visual inspections
	In collaboration with the Lead Construction BIM Manager, establish the schedule for clash-detection reviews.
Quality	Ensure intradisciplinary quality control before submission to the Project team
	Ensure that the Subcontractor and Supplier's models comply with modeling requirements, and that the required information is modeled at the right time.

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	Review and verify the quality of BIM deliverables produced by their team and ensure the compliance of all deliverables
Common Data Environment (CDE)	Ensure that models are classified as required on the CDE
	Ensure the active participation of their team on the CDE used on the Project

7. BIM USES

Table 5 - BIM uses

USES	SPECIFIC REQUIREMENTS	RESPONSIBLE
Design and Construction Modeling	A process in which 3D modeling software products are used to develop information-rich models	All
Design Optimization	Leverage models to iteratively refine and optimize design solutions aligned with DASH initiative objectives (prefabricability, repeatability, standardization, etc.)	Consultants
Interdisciplinary Coordination	Visual inspections and automated interference detection are necessary to meet quality requirements on the Project. Any coordination issues raised must be analyzed, sorted and tracked throughout the Project, while documenting the steps taken to resolve them.	All
Production of 2D deliverables from Models	Documentation must be produced from the models after interdisciplinary coordination (no alterations via another CAD software) and must complement and enhance the modeling, without contradicting or diverging from it.	All
BIM Model Visualization for Design and Construction Support	Display and navigate current models during meetings to enable effective Project communication and decision-making.	All
Constructability and Prefabricability Review	Use *Design Models* to support constructability and prefabricability reviews, at each phase (if applicable) and upon receipt of *Design Models issued for construction*. The analysis must propose options and optimizations. Follow-up must be presented at each phase and issues resolved prior to construction start.	Construction Manager
Construction BIM Model Review	Review construction models from trade contractors to help support the verification of the design intent compliance.	Consultants
BIM Model Visualization On-Site	Stakeholders must be able to present and visualize ongoing *Reference BIM Models* to support on-site exchanges and discussions and facilitate comparison with the built environment / existing conditions (installation, deficiency identification, etc.)	All

Final Conditions Capture	360° photographic surveys capturing as-built reality for comparison with the model. To validate As-Built documents (models, drawings)	Construction Manager
Compliance Control for Final Built Environment	Control of *As-Built BIM Models* for validation of compliance with the final built environment.	Construction Manager

7.1 MODELING

Modeling requirements are organized by project phase. Section 7.1.1 addresses the Design phase, where Consultants (organized by Discipline) are responsible for producing Design BIM Models. Section 7.1.2 addresses the Construction phase, where the Construction Manager, Subcontractors and Suppliers are responsible for producing Construction BIM Models. Sections 7.1.3 through 7.1.7 define common modeling standards that apply to both phases unless otherwise noted.

7.1.1 DESIGN PHASE — MODELING REQUIREMENTS BY DISCIPLINE

The following disciplines are expected to model according to the requirements laid out in BIM Requirements Appendix – Information Requirements.

- Architecture
- Structure
- Mechanical
    - Ventilation, heating, cooling, air conditioning
    - Plumbing
- Electrical
    - Communications
    - Security
- Fire Protection

The following disciplines are not expected to model during Design phase:

- Civil
- Landscape
- Audio-Visual
- Lighting
- Vertical Transportation
- Surveyor

7.1.2 CONSTRUCTION PHASE — MODELING REQUIREMENTS BY SUBCONTRACTOR AND SUPPLIER

The following Subcontractors and Suppliers are expected to model according to the requirements laid out in BIM Requirements Appendix – Information Requirements.

- Panel Manufacturers
- Structure
    - Wood framing
    - Steel framing (if applicable)

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- Mechanical
  - Ventilation, heating, cooling, air conditioning
  - Plumbing
- Electrical
  - Communications
  - Security
  - Audio-Visual
  - Lighting
- Fire Protection

The following Subcontractors and Suppliers are not expected to model during Construction phase:

- Civil
- Landscape
- Vertical Transportation
  Surveyor

7.1.3 BIM MODEL BREAKDOWN

During both the Design and Construction phases, the division of the project into individual models proposed by the parties involved must be specified in the applicable BIM Execution Plan (Design BEP or Construction BEP) and approved by [Developer Name]. BIM Managers are responsible for ensuring that the breakdown complies with the requirements and standards of [Developer Name] requirements and standards defined in the BIM Requirements (e.g. maximum file size, location limits, etc.).

7.1.4 MASTER FILE

This Model is created by the Lead Design BIM Manager and is specific to the Project. It serves as the main source for all the elements useful for positioning and identifying the limits of the Project, namely:

- Shared coordinate system (site) and georeferencing
- Reference axes (grids) for the location
- The "NS" (North-South) and "EO" (East-West) orientation axes intersecting the geodetic marker selected as reference for the Project
- Levels for the location concerned (all disciplines and/or specialties combined)
- Property limits for the location

During the Construction phase, the Lead Construction BIM Manager is responsible for distributing the Master File to all Subcontractors and Suppliers. Construction BIM Models must be aligned with the Master File to ensure consistent positioning across both phases.

7.1.5 GEOREFERENCING

All Design BIM Models and Construction BIM Models must be georeferenced in accordance with the following principles. During the Construction phase, Subcontractors and Suppliers must adopt the georeferencing established by the Design team:

- The Canadian NAD83 system must be used
- The Master File should be used as a reference source

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Stakeholders involved in the implementation of georeferencing must ensure that the following conditions are met at all times on the Project:

- Apart from the inherent Project issues, the method used must allow for a global relocation of the Project or a change of coordinate system.
- The method used must enable all stakeholders to produce models that are correctly geolocated and aligned with each other, particularly when they are federated or viewed on the platforms set up for the Project.

7.1.6 ELEMENTS BREAKDOWN

- In both Design BIM Models and Construction BIM Models, elements must be specifically modeled in such a way that they are easily transmitted to other platforms through open BIM formats:
- Walls and structural elements must be split by level
- Walls must be identified by their functional use: Interior, Exterior, Core Shaft, Foundation, etc.

7.2 COORDINATION

Each BIM Manager is responsible for ensuring the coordination of their Models.

In addition to continuous visual detection of coordination problems based on BIM Models, automated detection of collisions between various Design BIM Models or Construction BIM Models must be planned by the Lead BIM Manager in collaboration with their respective Project Managers and carried out as the project progresses. To ensure the relevance and effectiveness of these checks, the BIM Models used must first have been validated in advance by the respective Consultants, Subcontractors and Suppliers BIM Managers. Here is a summary list of the verifications required:

- The file format complies with Project standards
- The level of information need and geometry complies with the BIM Requirements
- Models are up to date and contain local modifications made by all users
- The model is correctly georeferenced

7.3 PRODUCTION OF 2D DELIVERABLES FROM BIM MODELS

Design Drawings, Shop Drawings, fabrication drawings and coordination drawings must be produced from their respective coordinated models. The specific annotations indicated on these plans must be generated directly from the alphanumeric information attached to the model elements.

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8. BIM DELIVERABLES

BIM DELIVERABLES	RESPONSIBLE	FORMAT	NOTES	MILESTONE(S)
Design BIM Execution Plan	Lead Design BIM Manager	.pdf	The BIM Execution Plan is part of the Project Protocols to be developed by the Prime Consultant. Each Consultant will contribute to the Design BEP.	Schematic Design (initial); updated at each subsequent design milestone as needed
Meeting Minutes	Lead BIM Manager (Design or Construction depending on phase)	.pdf	For all BIM Meetings (see 9.1.2)	At each BIM meeting (see Section 9.1.2)
Master File	Prime Consultant	Native (e.g. .rvt) and .ifc (4.X+)	Provided by the Lead Design BIM Manager	Schematic Design (initial); updated as needed
Design BIM Models	Consultants	Native (e.g. .rvt) and .ifc (4.X+)	Submit with associated 2D deliverables at each phase. See the BIM Requirements Appendix: Information requirements to ensure that models contain all the required information. DWG format accepted for civil plans	At each design milestone: SD, DD, 50% CD, 100% CD, IFT, IFC
2D Deliverables	Consultants/Subcontractors and Suppliers	.pdf	2D deliverables produced directly from Design BIM Models/Construction BIM Models CAD (dwg) architectural drawings can be requested at Record drawings, by exporting from Revit using the default Revit graphics standards.	At each milestone per project schedule
Construction BIM Execution Plan	Lead Construction BIM Manager	.pdf	The BIM Execution Plan is part of the Project Protocols to be developed by the Construction Manager. Each Subcontractor and Supplier will contribute to the Construction BEP.	Construction Start (initial); updated at each subsequent construction milestone as needed

Construction BIM Models	Subcontractors and Suppliers	Native (e.g. .rvt) and .ifc (4.X+)	Submit with associated 2D deliverables at each phase. See the BIM Requirements Appendix: Information requirements to ensure that models contain all the required information.	Concurrently with Shop Drawings, fabrication drawings and coordination drawings
Issue publication and follow-up	Consultants/Subcontractors and Suppliers	Issues on the CDE	By the Consultant during 3D coordination periods during the design phase. By the Consultants and Subcontractors and Suppliers during 3D coordination periods during the construction phase.	During coordination periods at applicable milestones
As-Built BIM Models	Construction Manager	Native (e.g. .rvt) and .ifc (4.X+)	Must reflect actual installed conditions including all field modifications and change orders. Validated against 360° photographic surveys per BIM Use "Final Conditions Capture."	Substantial Completion
Record BIM Models	Consultants (Prime Consultant)	Native (e.g. .rvt) and .ifc (4.X+)	Must preserve structured data architecture for facility management and operations.	Substantial Completion (initial); Final Completion (final)

Notes:

- All 3D deliverables should be exported to an .ifc format version 4.x+.
- .ifc format classes should match each component usage.
- Walls and Structural elements should be split by level.

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9. BIM MANAGEMENT PROCESS

9.1 COLLABORATION PROCESS

9.1.1 COMMON DATA ENVIRONMENT (CDE)

9.1.1.1 OBJECTIVES

[Developer Name] mandates the deployment of a project-specific Common Data Environment (CDE) to meet the following objectives:

- Facilitate information exchange and access between stakeholders
- Facilitate Project coordination
- Avoid duplication, decentralization of Project information and parallel directories
- Standardize Project document management

[Developer Name] will provide a document management platform to support deliverables submittals. In addition to this platform, the proposed solution(s) will be selected by the Prime Consultant for the Design phase and by the Construction Manager for the Construction phase, to be approved by [Developer Name] following these guidelines:

- The necessary licenses must be provided for each stakeholder requesting access.
- All procedures specific to the use of these platforms by stakeholders external to [Developer Name] must be presented in the BIM Execution Plan (BEP).
- The folder tree must follow standards established by [Developer Name].

Note: Using the same platform for both the Design and Construction phases is possible, provided that the Prime Consultant and the Construction Manager agree to do so.

9.1.1.2 SUBMISSION MANAGEMENT

Models, plans and specifications (Submissions) must be uploaded on the CDE in accordance with the principles set out below:

States of files uploaded to the platform:

- "SHARED": This state refers to regular Submissions of Models on the CDE for interdisciplinary collaboration purposes.
- "PUBLISHED": This state refers to the submission of deliverables of Models on the CDE for evaluation, use and archiving by [Developer Name].

Note: For each Submission on the document management platform, a Submission is also expected on the additional solutions selected by the Prime Consultant and the Construction Manager.

9.1.1.2.1 SHARED STATE

Models must be filed in the "SHARED" folder of the relevant discipline.

Sharing Frequency:

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- Design BIM Models must be shared weekly* until the last Issued for Construction deliverable, and on an ad hoc basis for each Change Directive or Change Order, see 9.2 Design Change management
- Construction BIM Models must be shared weekly* until the last Shop Drawings are reviewed, and on an ad hoc basis until Substantial Performance of the Work

* The day of the week scheduled must be specified in the BIM Execution Plan (BEP). In the specific case where no changes have been made since the previous version was shared, the new submission may be delayed. At any time during the Project, a model exchange cycle may not exceed 30 calendar days.

Revision management:
These SHARED Submissions must be made using the revision management functions of the platforms in place, without modifying the file names, in order to facilitate access to the Models and tracking of the Submissions.

9.1.1.2.2 PUBLISHED STATE

Deliverables must be submitted in the sub-folder dedicated to the Project milestone (e.g. "Schematic Design"), included in the "DELIVERABLES" folder for the discipline concerned.

Refer to the Appendix — Information Requirements, Section 6.1 for the definition of project milestones applicable to the project.

Frequency of Submissions:

Models, plans and specifications for "DELIVERABLES" must be submitted in a unique manner according to the key milestones identified for the Project.

9.1.1.3 ACCESS MANAGEMENT AND GOVERNANCE

Except for the document management platform, solution(s) access rights are managed by the Prime Consultant or the Construction Manager, depending on the Project phase. Any request for access to the platforms making up the CDE must be made by e-mail to the person in charge indicated by the parties involved in the BIM Execution Plan (BEP).

9.1.2 BIM MEETINGS

All BIM meetings must be conducted using the *Reference BIM Models* for the current phase as a support.

9.1.2.1 DESIGN BIM KICK-OFF

Objective: define common collaboration principles, the technological ecosystem, the BIM Requirements guidelines and to clarify the teams' vision at the start of the *design* phase. At this meeting, [Developer Name] will outline its vision, objectives and requirements for the BIM approach to the Project.

Table 6 - Design BIM Kick-off Meeting

Manager	Lead Design BIM Manager
Participants	• Representatives of [Developer Name] • BIM managers • Design project managers
Frequency	Unique

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9.1.2.2 CONSTRUCTION BIM KICK-OFF

Objective: define common collaboration principles, the technological ecosystem, the BIM Requirements guidelines and to clarify the teams' vision at the start of the *construction* phase. At this meeting, [Developer Name] will outline its vision, objectives and requirements for the BIM approach to the Project.

Table 7 - Construction BIM Kick-off Meeting

Manager	Lead Construction BIM Manager
Participants	• Representatives of [Developer Name] • Lead Design BIM Manager • Discipline BIM Managers • Subcontractor and Supplier BIM Managers • Design Project Managers • Construction Project Managers
Frequency	Unique

9.1.2.3 BIM MANAGEMENT

Objective: provide a framework for the BIM process, and to communicate and address any problems encountered during the execution of the processes defined in the BIM Execution Plan and the BIM requirements.

Table 8 - BIM Management Meeting

Manager	Lead BIM Manager (design or construction per current phase)
Participants	• Representatives of [Developer Name] • Discipline BIM Managers • Subcontractor and Supplier BIM Managers • Design Project Managers • Construction Project Managers
Frequency	As needed every 4 weeks

9.1.2.4 VALIDATION OF DESIGN COORDINATION

Objective: support interdisciplinary coordination during the design phase. The Lead Design BIM Manager presents current constructability issues, so that the Consultants can identify possible solutions and assign resolution responsibilities. The Prime Consultant retains responsibility for coordinating the work with the number of coordination workshops they deem appropriate.

Note: Coordination activity is based on *Design BIM Models* and is recorded in the collaborative platform.

Table 9 - Design Coordination Meetings

Manager	Lead Design BIM Manager
Participants	• Representatives of [Developer Name] • Discipline BIM Managers • Design project managers
Frequency	At the coordination milestone during the preliminary plans and specifications design phase

9.1.2.5 VALIDATION OF CONSTRUCTION AND FABRICATION COORDINATION

Objective: support interdisciplinary coordination during the construction phase. The Lead Construction BIM Manager presents current construction and fabrication issues, so that the Subcontractors and Suppliers can identify possible solutions and assign resolution responsibilities. The Construction Manager retains responsibility for coordinating the work with the number of coordination workshops they deem appropriate.

Note: Coordination activity is based on Design and Construction BIM Models and is recorded in the collaborative platform.

Table 10 - Construction Coordination Meetings

Manager	Lead Construction BIM Manager
Participants	• Representatives of [Developer Name] • Subcontractor and Supplier BIM Managers • Construction project managers
Frequency	At the end of coordination milestone during the construction phase

9.1.2.6 CONSTRUCTABILITY REVIEW WORKSHOP

Objective: present Construction Manager, Manufacturers and Subcontractors and Suppliers options and optimization proposals related to constructability and prefabricability of proposed designs.

Note: Based on *Design BIM Models*

Table 11 - Constructability Review Workshop

Manager	Lead Construction BIM Manager
Participants	• Representatives of [Developer Name] • Lead Design BIM Manager • Discipline BIM Managers • Subcontractor and Supplier BIM Managers • Design Project Managers • Construction Project Managers
Frequency	At Schematic Design (SD), Design Development (DD) and 50% Construction Documents (CD)

9.2 DESIGN CHANGE MANAGEMENT

The purpose of DASH with BIM integration is to eliminate the need for Change Directive or Change Order. However, should they be necessary, each Change Directive or Change Order that has a material impact on the model geometry must be represented and managed using the Design BIM Models. Those updated Design BIM Models shall be published with said Change Directive or Change Order.

10. QUALITY ASSURANCE AND CONTROL

10.1 QUALITY ASSURANCE PLAN

The Lead BIM Manager (Design or Construction) is responsible for establishing a quality assurance plan to be detailed in the BIM Execution Plan (BEP) in collaboration with the discipline or Subcontractor and Supplier BIM Managers, who must themselves adhere to it and ensure that it is implemented and followed within their respective teams. The respective BIM Managers of each discipline, Subcontractor or Supplier must also establish a quality assurance procedure to validate that the processes for creating and updating information in their discipline adequately meet the requirements and standards defined by [Developer Name]. Each Project member is responsible for carrying out quality assurance for the dataset and models before submitting their deliverables.

This quality assurance plan must include, but is not limited to, the following points:

- Modeling guidelines: Ensure that each BIM model is created based on the modeling requirements and standards of [Developer Name].
- Information validation: Ensure that the geometric and alphanumeric information required by [Developer Name] during the various Project phase deliveries complies with BIM Requirements and is properly presented.
- Status of communications and collaboration: Ensure prompt resolution of issues and conflicts in the collaborative platform (communications must be validated by the Lead BIM Manager on an ongoing basis on the Project). In addition, collaboration processes (repository management, frequency of BIM Model exchange, timely information updates, etc.) must be periodically audited to ensure efficiency and prevent potential problems. Changes between two versions of the same file must be communicated to the Project team.
- Quality control: The Lead BIM Manager must carry out audits of the models, including their state of health, on an ongoing basis and just before the deliverables are handed over.
- Interference checking: In addition to continuous visual detection of coordination problems based on BIM Models, automated detection of collisions between various Design BIM Models or Construction BIM Models must be planned by the Lead BIM Manager in collaboration with their respective Project Managers and carried out as the Project progresses. To ensure the relevance and effectiveness of these checks, the BIM Models used must have been validated in advance by the Consultants/Subcontractors and Suppliers BIM Managers.
- Project and BIM models shall be designed with a prefabrication first design approach, ensuring the building can be produced with off-site methods without requiring extensive design changes.

Note: The list of quality control points defined in the Appendix - Information requirements can serve as a reference and starting point for stakeholders to identify potential quality issues and set up their quality assurance plan.

FOR INFORMATION