



Georgia State Financing and Investment Commission

GSFIC BIM Execution Plan

Series 01: Template

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Agreement

By signature below, this BIM Execution Plan is herewith adopted and incorporated into the Agreement, dated _____, for Professional Design Services between _____ and GSFIC.

Owner (sign and date)

Architect (sign and date)

Construction Manager (sign and date)

Structural Engineer (sign and date)

Mechanical Engineer (sign and date)

Electrical Engineer (sign and date)

Plumbing Engineer (sign and date)

Additional Party as Needed (sign and date)

1.0 Overview

The intent of this BIM Execution Plan is to provide a framework that will let the owner, architect, engineers, and construction manager deploy building information modeling (BIM) technology and best practices on this project faster and more cost-effectively. This plan delineates roles and responsibilities of each party, the detail and scope of information to be shared, relevant business processes and supporting software. This template is to be used in conjunction with the GSFIC BIM Guide.

2.0 Project Initiation

This section defines the Core Collaboration Team, the project objectives, project phases, and overall communication plan throughout the project's phases.

2.1 Project Information

Project Name:	
Project Number:	
Project Address:	
Project Description:	

2.2 Core Collaboration Team

List all stakeholders that form the project management team below. These individuals share in the responsibility of providing oversight pursuant to validation of the project program, cost and value .

Contact Name	Role/Title	Company	Phone	Email

2.3 Project Goals and Objectives

List all project goals and objectives below.

Project Goal	Objective	Achieved if	Project Time Frame

2.4 Collaborative Process Mapping (Coordination Plan)

All stakeholders on the project are to briefly describe and identify their roles and responsibilities below. The purpose of the process map is to plan events, coordination, and the deliverables for each milestone. Role owners, described as a column will reflect their responsibilities per project phase.

	Owner	Architect	Consulting Engineers	Construction Manager	Commissioning Agent
Programming/ Pre-design Phase					
Schematic Design Phase					
Preliminary Design Phase					
Construction Documents Phase					
Agency Review and Bidding Phase					
Construction Phase (contractor)					
Close-out (Design Team)					
Close-out (Contractor)					

2.5 Project Phases / Milestones

This section identifies all stakeholders involved in completing project phase milestones. Start and completion dates will correspond with the approved project schedule. Stakeholders involved shall be the contributing parties assigned to those tasks within the phases for the project.

Project Phase/ Milestone	Estimated Start Date	Estimated Completion Date	Project Stakeholders Involved
Programming/ Pre- Design Phase			
Schematic Design Phase			
Preliminary Design Phase			
Construction Documents Phase			
Agency Review & Bidding Phase (Contractor)			
Close-out (Design Team)			
Close-out (Contractor)			

3.0 Modeling Plan

Advance planning around which models will need to be created during the different phases of the project, which will be responsible for updating models and distributing them, and predetermining the content and format of models as much as possible, will help your project run more efficiently and cost-effectively during every phase.

3.1 Model Managers

Each party—such as the owner, architect, contractor, or sub-consultants—that is responsible for contributing modeling content should assign a model manager to the project. The model manager from each party has a number of responsibilities. They include, but are not limited to:

- Transferring modeling content from one party to another
- Validating the level of detail and controls as defined for each project phase
- Validating modeling content during each phase
- Combining or linking multiple models
- Participating in design review and model coordination sessions
- Communicating issues back to the internal and cross-company teams
- Keeping file naming accurate

- Managing version control
- Properly storing the models in the collaborative project management system

Stakeholder Company Name	Model Manager Name	Phone	Email

3.2 Planned Models

In the table below, outline the models that will be created for the project. List the model name, model content, project phase when the model will be delivered, the model's authoring company, and the model-authoring tool that will be used. For models that will not be used or created in your project, just leave the row blank, and add rows for model types you anticipate needing that are not already listed.

Model Name	Model Content	Project Phase	Authoring Company	Authoring Tool
Architectural Model	Architectural objects, code information			
Civil Model				
Structural Model				
Mechanical Model				
Electrical Model				
Plumbing Model				
Energy Model				
Construction Model	Scheduling information, sequencing information			
Estimate Model				(e.g. Autodesk Quantity Takeoff)
Coordination Model	Design Intent Models and Fabrication information			

3.3 Model Components

Specify what the content, level of detail, and file naming structure of your models should look like. (Refer to GSFIC BIM Guide).

3.3.1 File Naming Structure

Determine and list the structure for model file names and data format.

File Names for Models Should be Formatted As (Example): Arch-Prj No -Central.rvt	
Architectural Model	ARCH-
Civil Model	CIVIL-
Structural Model	STRC-
Mechanical Model	MECH-
Electrical Model	ELEC-
Plumbing Model	PLMB-
Energy Model	ENRG-
Construction Model	CNST-
Estimate Model	COST-
Coordination Model	COOR-

3.3.2 Precision and Dimensioning

Models should include all appropriate dimensioning as needed for design intent, analysis, and construction. With the exception of the exclusions listed below, the model will be considered accurate and complete. In the table below, enter which items' placement will not be considered entirely accurate and should not be relied on for placement or assembly.

Items that Will Not Be Considered Accurate for Dimensioning or Placement
ARCH-
CIVIL-
STRC-
MECH-
ELEC-
PLMB-

3.3.2 Modeling Level of Detail

Specify the level of detail in your models below. The level of detail can be defined by exclusions and/or by object size. The level of detail described here should reflect descriptions listed within the GSFIC BIM Guide.

Exclusions: List the objects excluded from the model in the table below.

Items that Will Be Excluded from the Model
ARCH-
CIVIL-
STRC-
MECH-
ELEC-
PLMB-

3.5 Analysis Plan

Your project's scope of work may require performing certain kinds of analysis in addition to those required by the GSFIC BIM Guide. In most cases, the quality of the analysis depends on the quality of the original model that the analysis is derived from. Therefore, the project team member performing the analysis should clearly communicate the analysis requirements to the original model authoring team member. Examples of additional analysis that may be required are listed below.

Quantity Takeoff Analysis

The objective of quantity takeoff analysis is to use modeling property data to automate or simplify the quantity takeoff process. This information from the quantity takeoff tool can then be imported or tied to cost-estimating software. In order for the quantity takeoff process to work seamlessly, the original modeling author will need to include the relevant property information in the design and an agreement of modeled content communities to estimate.

Scheduling Analysis

Scheduling analysis lets the project team use the project model to analyze the timeline and sequencing for construction. This information can then be used to modify or adjust the construction schedule. Tools currently exist that allow project team members to visualize the construction over time, but no systems exist yet that interact automatically with scheduling tools.

LEED Rating/Energy Analysis

LEED (leadership in energy and environmental design) Rating/Energy Analysis tools help the project team evaluate the impact of design decisions on sustainability and energy consumption. This analysis model is usually based on the main Architectural model, after which material and building system inputs can be used to evaluate the project's sustainability and energy consumption.

Structural Analysis

Structural analysis tools use the model to analyze the building's structural properties. Structural analysis programs typically use the finite element method (FEM) to measure the stresses on all structural elements of the design. For structural analysis to work seamlessly, the original structural modeling tool needs to be compatible with the structural analysis tool, and the original structural model property data must include information about the structural elements.

Visualization Analysis

Visualization tools let the project team view the design or construction of the project in 3D, giving them a more accurate perspective of the product.

3.5.1 Detailed Analysis Plan

For each type of analysis that may be performed for your project, list the models used for the analysis, which company will perform the analysis, the file format required for the analysis, the estimated project phase, and the analysis tool that will be used. If there are, other special instructions associated with the analysis, mark the Special Instructions column and list the details in the Special Instructions table in the next section.

Analysis	Analysis Tool	Model	Analyzing	Project Phase	File Format

3.6 Clash Detection Process

Clash detection analysis is done to check for interferences between the designs of one or many models. To reduce change orders during construction, clash detection should be performed early and continue throughout the design process. For clash detection to work properly your project's models, need to have a common reference point and they must be compatible with the clash detection tool.

4.0 Concurrent As-Built Modeling Plan

As-built modeling will be a collaborative effort between the Architect and consultants and the construction team. During the construction process, the design team will incorporate changes triggered by requests for information (RFIs), architect's supplemental instructions (ASIs) and change orders into the Architectural and Consultant models. At specified dates during the construction process, the construction team will provide the design team with necessary changes due to shop drawings, coordination drawings and change orders. As required, the completed form of the construction will also be verified at these specified dates using laser scanning. The design team will then incorporate the changes reported by the construction team into the Architectural and Consultant models. At the end of construction, it will be the updated Architectural and Consultant models that are used for facility management.

5.0 Construction Capture Schedule

Event	Date	Parties Involved

6.0 Collaboration Plan

Creating a collaboration plan early on—including defining permissions and file structures—will help team members efficiently communicate, share, and retrieve information throughout the project. It lets you get the most out of your collaborative project management system, saving time and increasing your ROI.

7.0 Document Management

A Collaborative Project Management system will have to be agreed upon prior to start of project. The requirements of the Collaborative Project Management system are:

- Be web-based or web-enabled—so all relevant, authorized project team members can remotely access it.
- Accommodate different permissions profiles for different project team members.
- Allow communication through either internal messaging or system-generated email.
- Include document management capability that lets the project team create a customized and permission-based folder structure, which offers upload, download, and version control capabilities.
- Include a viewer that allows the project team to view .dwg, .dgn, .plt, .dwf, .pdf, .tif, .jpg, .doc, and .xls files.
- Include construction management capabilities for the tracking of requests for information (RFIs), submittals, design review, meeting minutes, daily reports, issues, correspondence, and transmittals.
- Able to interact with the file folder structure in the document management section.
- Able to automatically accept raw data from the clash detection tool.
- Include bid management capability, and this bid management solution should allow the project team to post the contract drawings and specifications for viewing in the form of a Plan Room.
- Allow for cost management controls, and this cost management capability should include budgeting, contracting, change orders processing, and payments applications tracking.
- Allow the project team to run reports based on the information in the system.
- Allow for the workflow and routing throughout the document, construction and cost management components of the solution.

8.0 Document Management Solution

A document management solution will be provided by the owner. The document management solution that will be used is the GSFIC Enterprise Solution System known as E-Builder. The site will be maintained from the signing of this document until the occupation of the building.

