





Project Name: Project Name

Document: BIM Execution Plan

Rev. No

Date

Contract No.

 **Project Name:**

Project No:

Document Title: BIM Execution Plan

Lead Office:

Document Version:

Date:

Client Name: Maryland Aviation Administration

Client No:

Manager of Projects:

BIM Manager:

File Name:

Document History

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| **Revision** | **Date** | **Description** | **By** |  **Review Approved** |
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Table of Contents

# Project Introduction – BIM Overview

The team shall document how and to what extent BIM will be implemented on the project. The BIM execution plan (BxP) provides a framework for the owner, design team, and construction manager to deploy building information modeling (BIM) technology and its best practices on the project. The plan outlines specific information on teams, roles and responsibilities of each party, the detail and effort to deliver BIM per the project SOW. Technical information on software use, collaboration methods, and workflows.

The MDOT- MAA LOD Matrix spreadsheet is a companion document to this word template. Together they constitute the MDOT-MAA BxP.

Additional Sections to be added as determined by Design or Construction team to address the BIM Execution Plan instructions.

# Project Description

# Project Information

Add additional rows as necessary

|  |
| --- |
| **PROJECT INFORMATION** |
| **Project Owner** |  MDOT- MAA Maryland Aviation Administration |
| **Project Address** |  991 Corporate Blvd, Linthicum, MD 21090 |
| **Project Type** |  |
| **Contract Type/ Delivery Method** |  |
| **Approx. SF** |  |
| **Client BIM Standards** |  |
| **Arch. Office** |  |
| **Contractor Office** |  |
| **Consultants Office** |  |

# Project Schedule & Phase Milestones

Provide milestone information and how scheduling will be created and documented. Add as required for project SOW.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PROJECT MILESTONE** | **ESTIMATED START** | **ESTIMATED COMPLETION** | **REVISE BIM PLAN** | **INVOLVED****PROJECT STAKEHOLDERS** |
| **Preliminary Planning** | [Date TBD] | [Date TBD] | [YES/NO] |  |
| **Schematic Design** | [Date TBD] | [Date TBD] | [YES/NO] |  |
| **Design Development** | [Date TBD] | [Date TBD] | [YES/NO] |  |
| **Bidding Documents** | [Date TBD] | [Date TBD] | [YES/NO] |  |
| **Conformed Model** | [Date TBD] | [Date TBD] | [YES/NO] |  |
| **Construction Documents** | [Date TBD] | [Date TBD] | [YES/NO] |  |
| **50% Construction** | [Date TBD] | [Date TBD] | [YES/NO] |  |
| **Project Closeout** | [Date TBD] | [Date TBD] | N/A |  |

# Key Project BIM Contacts & Roles

## BIM Contacts

|  |  |
| --- | --- |
| **ORGANIZATION** | **BIM CONTACT INFORMATION** |
| **MDOT-MAA** | **ROLE** | **NAME** | **EMAIL** | **PHONE** |
|  | Project Manager |  |  |  |
|  | Program Manager |  |  |  |
|  | BIM Director |  |  |  |
|  | BIM Manager |  |  |  |
|  | [Representative] |  |  |  |
| **DESIGN TEAM** | **ROLE NAME** |  **EMAIL PHONE** |
|  | Project Manager |  |
|  | BIM Manager |  |
|  | [BIM Manager] |  |
|  | Architect of Record |  |
|  | Discipline Lead |  |
|  | [Discipline Lead] |  |
|  | [Discipline Lead] |  |
|  | [Cost Estimator] |  |
|  | [Project Consultant] |  |
| **CONSTRUCTION TEAM** | **ROLE NAME** |  **EMAIL PHONE** |
|  | Project Manager |  |
|  | BIM Manager |  |
|  | [BIM Manager] |  |
|  | Architect of Record |  |
|  | Discipline Lead |  |
|  | [Discipline Lead] |  |
|  | [Discipline Lead] |  |
|  | [Cost Estimator] |  |
|  | [Project Consultant] |  |

# BIM Uses

Identify the BIM uses on the project and whether it is a required or recommended use to meet scope of work. Review and fill in the MDOT-MAA LOD Matrix.

## a. Owner BIM & Facility Data Requirements – Develop the MDOT-MAA LOD Matrix

This is a separate excel file. LOD is affected by the BIM Uses and the final Record model requirements of MDOT-MAA

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **BIM Uses** | **Required** | **Possible** | **Not in Scope** | **BIM Authoring Tool(s)** | **Additional or****Included Service** | **Responsible Party** |
| Architectural (Shell/Spaces) |  |  |  |  |  |  |
| Structural |  |  |  |  |  |  |
| Civil |  |  |  |  |  |  |
| Mechanical |  |  |  |  |  |  |
| Electrical |  |  |  |  |  |  |
| Lighting |  |  |  |  |  |  |
| Plumbing |  |  |  |  |  |  |
| Fire Protection / Fire Alarm |  |  |  |  |  |  |
| Controls / Security |  |  |  |  |  |  |
| Telecom |  |  |  |  |  |  |
| Interiors |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |
| **BIM-Based Analysis** |  |  |  |  |  |  |
| BIM Based Site Analysis |  |  |  | **Analysis tools with BIM to support design** |  |  |
| Early Concept Analysis / Programming |  |  |  |  |  |  |
| Model Element Coding for Cost Analysis |  |  |  |  |  |  |
| Structural Analysis |  |  |  |  |  |  |
| Mechanical Analysis |  |  |  |  |  |  |
| Lighting Analysis |  |  |  |  |  |  |
| Solar Analysis |  |  |  |  |  |  |
| Energy Analysis |  |  |  |  |  |  |
| Sustainability / LEED Analysis |  |  |  |  |  |  |
| Computational Fluid Dynamic Analysis |  |  |  |  |  |  |
| Traffic Analysis |  |  |  |  |  |  |
| Code Analysis (Life Safety) |  |  |  |  |  |  |
| Facility Analysis / FM Review |  |  |  |  |  |  |
| **Visualization & Virtual Mock-Ups** |  |  |  |  |  |  |
| Static Images |  |  |  | **Design representation & critical conditions review prior to construction** |  |  |
| Virtual Walkthroughs |  |  |  |  |  |  |
| Typical Room Layout |  |  |  |  |  |  |
| Building Skin / Enclosure Mock-Up |  |  |  |  |  |  |
| Zone Planning and Layout |  |  |  |  |  |  |
| 3D Printed Mock-Up |  |  |  |  |  |  |
| Virtual Construction Mock-Up |  |  |  |  |  |  |
| **3D Laser Scanning** |  |  |  |  |  |  |
|  |  |  |  | **Validate & document existing conditions** |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **BIM Uses** | **Required** | **Possible** | **Not in Scope** | **BIM Authoring Tool(s)** | **Additional or****Included Service** | **Responsible Party** |
| Exterior 3D Laser Scanning |  |  |  |  |  |  |
| Interior 3D Laser Scanning |  |  |  |  |  |  |
| MEP Systems 3D Laser Scanning |  |  |  |  |  |  |
| Development of BIM from Point Cloud Data |  |  |  |  |  |  |
| **Clash Detection** |  |  |  | **Spatially coordinate models** |  |  |
| Design-Phase Clash Avoidance |  |  |  |  |  |  |
| Design-Phase Clash Detection |  |  |  |  |  |  |
| Construction-Phase Clash Avoidance in Fabrication Models |  |  |  |  |  |  |
| Construction-Phase Clash Detection with Fabrication Models |  |  |  |  |  |  |
| **Collaboration / Quality Review Tools** |  |  |  |  |  |  |
| Electronic Design Review / Page-Turn |  |  |  |  |  |  |
| Electronic Constructability Analysis |  |  |  |  |  |  |
| Spatial Program Validation |  |  |  |  |  |  |
| BIM Validation for Client Requirements |  |  |  |  |  |  |
| Code Validation |  |  |  |  |  |  |
| **Quantity Take-Offs / Cost Analysis Estimating** |  |  |  |  |  |  |
| Quantity Take-Off Integration |  |  |  |  |  |  |
| Scope Reconciliation |  |  |  |  |  |  |
| Value Engineering |  |  |  |  |  |  |
| **Construction Phase Modeling** |  |  |  |  |  |  |
| Steel Fabrication Model |  |  |  |  |  |  |
| Secondary Steel Fabrication Model |  |  |  |  |  |  |
| Concrete Fabrication Model |  |  |  |  |  |  |
| Precast Fabrication Model |  |  |  |  |  |  |
| Wall Framing Fabrication Model |  |  |  |  |  |  |
| Site Utilities Fabrication Model |  |  |  |  |  |  |
| HVAC Fabrication Model |  |  |  |  |  |  |
| Electrical Fabrication Model |  |  |  |  |  |  |
| Plumbing Fabrication Model |  |  |  |  |  |  |
| Telecom Fabrication Model |  |  |  |  |  |  |
| Fire Protection Fabrication Model |  |  |  |  |  |  |
| Security / Controls Fabrication Model |  |  |  |  |  |  |
| BIM-integrated Process for RFI, Submittals, Change Orders |  |  |  |  |  |  |
| **Construction Phasing Visualizations** |  |  |  | **Visualization of model(s) tied to construction schedule and/or cost** |  |  |
| Digital Field Layout of Systems |  |  |  |  |  |  |
| Site Logistics & Utilization Planning |  |  |  |  |  |  |
| Conceptual Phasing Model |  |  |  |  |  |  |
| Full Project CPM Model (4D) |  |  |  |  |  |  |
| Area Look Ahead Model |  |  |  |  |  |  |
| As-Planned vs As-Built Schedule |  |  |  |  |  |  |
| Fabrication / Procurement Tracking |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **BIM Uses** | **Required** | **Possible** | **Not in Scope** | **BIM Authoring Tool(s)** | **Additional or****Included Service** | **Responsible Party** |
| Safety Model |  |  |  |  |  |  |
| Stakeholder/Community Education |  |  |  |  |  |  |
| **Commissioning** |  |  |  |  |  |  |
| BIM Integrated Commissioning |  |  |  |  |  |  |
| **Turnover BIM Files to Owner** |  |  |  |  |  |  |
| Design Authored 3D Models |  |  |  |  |  |  |
| Fabrication As-Built Models |  |  |  |  |  |  |
| Design Clash Coordination Files |  |  |  |  |  |  |
| Fabrication Clash Coordination Files |  |  |  |  |  |  |
| Record Models |  |  |  |  |  |  |
| **Operations & Facility Management** |  |  |  | **Progress use of BIM into owner operations** |  |  |
| Link Specs into BIM Components |  |  |  |  |  |  |
| Asset Data / COBie Transferred from BIM |  |  |  |  |  |  |
| CMMS Integration |  |  |  |  |  |  |
| Emergency Management & Analysis – Evacuation Maps |  |  |  |  |  |  |
| Integration with other Owner’s Systems (iWMS, Security, etc.) |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

# BIM Use Detailed Description

Provide additional information on BIM uses on the project. Who is responsible, when during the project, and how BIM will be used to meet the identified project goals.

# Modeling Standards & Plan

Provide information on how the team shall maintain MDOT-MAA standards

## a. Client Standards

## b. Model Breakdown & Collaboration Structure

|  |  |
| --- | --- |
| **Permission Groups** | **Permission Description** |
|  |  |
|  |  |
|  |  |

# 9. Software Versioning

# 10. Revit Central File Naming Convention

# 11. Content Organization

# 12. Quality Control Check