APPLICATION FOR MODEL BASED DIGITAL DELIVERY PROJECTS AT NYSDOT

This application shall be used for all NYSDOT projects seeking to utilize Model Based Digital Delivery (MBDD). It is not necessary to complete this application for Traditional (TD) or Hybrid Digital Delivery (HDD) projects. Hybrid Digital Delivery Projects should utilize the table of approved design elements found in the reference guide for Hybrid Digital Delivery projects.

Digital Delivery Method	Format	Description	Project Category[2]
Traditional Delivery (TD)	2D PDF Plans	Only 2D PDF plans	Simple
Hybrid Digital Delivery (HDD)	2D PDF Plans + Digital Data[1]	2D PDF plans with digital data substituting specific drawings	Simple Moderate Complex
Model Based Digital Delivery (MBDD)	2D PDF Plans + Digital Data[1] + 3D Solid Model	2D PDF plans(minimal) with digital data and a comprehensive 3D solid model portraying most of the contractual work.	Complex

[1] Examples of Digital Data include .dgn / .pdf / . xlsx / .xml / etc.

[2] Refer to NYSDOT Project Development Manual for project category information.

This application shall be submitted prior to or concurrent with requesting Design Approval for the project. It is recommended that this application process be started once the preferred alternative is selected, and prior to final design. For bridge projects, this application must be approved prior to the submission of the Site Data Package.

SECTION 1 – Application Process

1. Determine the Digital Delivery Project Liaison. This person can be from the Region or from a Main Office Program Area. This is the person who will champion the digital delivery aspects throughout the duration of the project and will likely also serve as a technical lead or project manager.
2. The Digital Delivery Project Liaison coordinates with technical leads to complete this application.
3. The Digital Delivery Project Liaison circulates the application for Regional approval signatures, shown in Section 5.
4. The Digital Delivery Project Liaison sends the signed application to the Chairs of the Model Based Contracting Committee for approval, shown in Section 6.
5. The Model Based Contracting Committee will review the application and recommend approval, shown in Section 6.
6. Final approval will be granted by Office Directors, shown in Section 7.
7. The approved or rejected application will be returned to the Digital Delivery Project Liaison, copying the project team, regional approvers, and the distribution list shown in Section 8.
8. If approved, a Digital Delivery Mentor will be assigned to the project by the Model Based Contracting Committee. The Digital Delivery Project Liaison shall coordinate with the mentor for changes to this application or with any questions relating to Digital Delivery. The Digital Delivery Project Liaison shall also submit all in-progress technical reviews listed in Section 6 to the Digital Delivery Mentor for comments.

SECTION 2 – Reference Documents

NYSDOT has completed two pilot projects using the model based digital delivery method. The experience gained on the pilot projects are the basis for the Digital Delivery Repository stored on ProjectWise in the Resource Information folder. It is recommended that all documents in this folder be reviewed and referenced while completing this application and determining if the project is suited for this method of digital delivery.

pw:\\PWPROD.svc.ny.gov:NYSDOT_PWCE\Documents\Resources\Resource Information\Digital Delivery Repository\

SECTION 3 – Project Team Information

Digital Delivery Project Liaison:	
Regional Project Manager:	
Highway Technical Lead:	
Structures Technical Lead:	
Geotechnical Technical Lead:	
Other Technical Leads:	

SECTION 4 – Project Information

Project Name:	
Project Description:	
PIN:	
BIN (s):	
Total Construction Cost:	

Project Schedule:

Design Approval:	
ADP:	
PS&E:	
Letting:	
Construction Schedule:	

Stakeholders and Coordination:

List in this section any project specific information related to utilities, outside stakeholders (i.e. special interest groups, local municipalities, railroads, etc.), or any other disciplines that will require special coordination.

Contract Documents:

An important aspect of Digital Delivery is knowing what design information is being presented in what file format. The presentation of design information will vary on a project specific basis. The Digital Delivery Project Liaison shall coordinate with the technical leads to fill out the tables below for the delivery method selected, to the best of their ability during the Design Approval phase. Making the decisions for how design information will be delivered is a crucial step in the Digital Delivery process.

When deciding what information will be provided in what file type, the technical lead shall consider return on investment for modeling that element. For additional guidance, reference the Digital Delivery Guidance Document.

Select the following design elements that will be included in the contract documents. List any project specific design elements and designate the type of contractual, supplemental, and additional digital data files that will be provided.

Design Element (Select all that apply "X")			Drawings or Elements Removed from the 2D Plans	Contractual Files (Sealed by P.E.)		Supplemental Files Provided for Design Reviews and PS&E for Bidding (list format)
				3D Solid Model (DGN)	Digital Data (list format)	
Highway		Original Ground Surface	N/A	No	DTM/XML	Mapping Information - type, coordinate system (PDF)
		Sub-grade Surface	N/A	No	DTM/XML	None
		Final Grade Surface	Grading Plan	No	DTM/XML	None
		Baseline Alignment	Baseline Ties	No	ALG/XML	Survey control report (PDF)
		Horizontal Alignment	Horizontal Control Plan/Table	No	ALG/XML	OpenRoads horizontal alignment report (PDF)
		Vertical Alignment	Vertical Profile	No	ALG/XML	Vertical profile roll plot (PDF)
		Superelevation	N/A	No	Excel	Vertical profile roll plot with banking diagram (PDF)
		Highway Corridor Features (All)	General Plan	Yes	DGN	3D PDF (Optional)
		Closed Drainage Network	Drainage Plan/Profile/Table	Yes	DGN	OpenRoads SUDA drainage table export (PDF)
		Large Culvert	Culvert Plan/Details	Yes	DGN	3D PDF (Optional)
		Existing/Proposed Utilities	Utility Plan/Profile/Table	Yes	DGN	3D PDF (Optional)
		Right of way Acquisitions	Right of Way Plan/Table	No	No	Acquisition Maps (PDF)
		Work Zone Horizontal Alignment	WZTC Horizontal Control	No	ALG/XML	OpenRoads horizontal alignment report (PDF)
		Work Zone Vertical Alignment	WZTC Vertical Profile	No	ALG/XML	Vertical profile roll plot (PDF)
		Work Zone Superelevation	N/A	No	Excel	Vertical profile roll plot with banking diagram (PDF)
		Work Zone Corridor Features (On-	WZTC Plan/Detail	Yes	DGN	3D PDF (Optional)
Structures		Existing substructures	N/A	No	No	3D solids of existing features (DGN)
		Existing superstructure	N/A	No	No	2D plan or 3D solids of existing features (DGN)
		Boring Location	Boring location plan	Yes	DGN	None
		Boring Logs	Subsurface profile	No	PDF	None
		Earthwork (excavation, fill)	Plan/Sections	Yes	DGN	None
		Temporary excavation support	Plan/Sections	Yes	DGN	None
		Foundations	Pile layout/details/table	Yes	DGN	Actual Pile Length Table (Excel)
		Proposed substructures	Plan/elevation/sections	Yes	DGN	None
		Bridge bearings	Bearing table	No	Excel	None
		Superstructure (steel or concrete)	Elevation/section/details	No	Excel	3D solids of proposed features (DGN)
		Design load tables	Design load tables	No	Excel	None
		Moment and shear tables	Moment and shear tables	No	Excel	None
		Camber table	Camber table	No	Excel	None
		Haunch table	Haunch table	No	Excel	None
		Superstructure and Approach slabs	Plan/elevation/sections	Yes	DGN	None
		Sidewalks, Median	Plan/elevation/sections	Yes	DGN	None
		Overhead sign structures	Plan/elevation/sections/details	Yes	DGN	None
		Bridge mounted sign structures	Plan/elevation/sections/details	Yes	DGN	None
		Architectural treatment	Locations and details	Yes	DGN	None
		Reinforcement	Sections and details	Yes	DGN	Reinforcement Barlist (Excel)

Additional Comments to be considered (project complexity, unique features, innovation, etc.):

SECTION 5 – Regional Approval Signatures

_____ _____
Regional Design Engineer Date

_____ _____
Regional Structures Engineer Date

_____ _____
Regional Construction Engineer Date

SECTION 6 – Model Based Contracting Committee Recommendations

Committee Chairs:

Brenda Crudele, P.E.
Director, Structures Design Bureau
NYSDOT Office of Structures
Brenda.Crudele@dot.ny.gov
(518) 485-0139

Eric Coulter, P.E.
Design Bureau
NYSDOT Office of Design
Eric.Coulter@dot.ny.gov
(518) 457-8554

Digital Delivery Mentor:	*(Model Based Contracting Committee to assign a mentor based on digital delivery project type and scope.)*
In-Progress Technical Reviews:	☐ Preliminary Structures Package Submission ☐ Advanced Detail Plans (ADP) Submission ☐ Pre-PS&E Submission ☐ Final Plans, Specification, and Estimate (PS&E) Submission

Additional Committee Comments:

☐ APPROVED _____ Date: _____

☐ REJECTED _____ Date: _____

The Committee does not recommend that this project be approved for Digital Delivery due to:

SECTION 7 – Digital Delivery Project Approvals by Office Directors and Chief Engineer

_____ _____
Director, Office of Design Date

_____ _____
Director, Office of Structures Date

_____ _____
Director, Office of Construction Date

_____ _____
Chief Engineer Date

Additional Comments:

SECTION 8 – Application Distribution List

Return the approved or rejected application to the following:

Digital Delivery Project Liaison
Model Based Contracting Committee Chairs
Digital Delivery Mentor
Project Team (as listed in Section 3)
Regional Approvers (as listed in Section 5)
FHWA (if applicable)
Design Quality Assurance Bureau (DQAB)
Program Management Bureau (PMB)
Project Management Office (PMO)
Office of Construction
Office of Contract Management
Geotechnical Engineering Bureau
Office of Right of Way (OROW)
Office of Environment
Statewide Policy Bureau/GreenLITES Admin.
Office of Structures
Railroad Agreements Unit (if applicable)

Regional Director
Regional Design Engineer
Regional Construction Engineer
Regional Traffic Engineer
Regional Director of Operations
Regional Technical Services Engineer
Regional Quality Control Engineer
Regional Public Information Officer
Regional Structures Engineer
Regional Surveyor
Regional Right of Way Officer
Regional Landscape Architect
Regional Environmental Unit Supervisor
Regional Geotechnical Engineer
Regional Utilities Engineer
Regional Design Work Zone Traffic Control
Regional Planning & Program Management